Social change and fertility transition in Sri Lanka

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by

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A Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Geography

The University of Durham
1994

Abstract

The study investigates and interprets the factors that contributed to the recent decline in fertility in Sri Lanka, despite its low economic standing. It seeks to elucidate the social transformation that has taken place and looks at the socio-cultural determinants that have brought about the process of fertility transition. In this regard, the significant effects of the welfare measures in force in the country in respect of health, education, nutrition and housing have been brought to light. Hence the study tends to fall outside the scope of the conventional wisdom laid down in the demographic transition theory outlined by Notestein, which emphasised the contribution that economic development plays in lowering fertility.

The approach to the study hinges on selected variables like education, age at marriage, gender roles *per se* and female employment. The cardinal role played by free education in contributing to the transition is given particular coverage. Education is treated more as a cultural asset which determines and shapes values, preferences and aspirations in respect of marriage, fertility, family formation and other aspects such as career development which enables women to play roles away from home. Unfortunately, inferences about women's position do not always gain statistical support, as they are intricately woven into the fabric of societal gender settings and traditions. In respect of age at marriage, the socio-cultural factors of society like the caste system, a dowry and horoscope matching with details of Karmic determinants have been examined in some detail.

The study also uncovers the social deprivation aspects which for long led women in the plantation sector to experience fertility performance lower than the national level. Going by normal demographic rationale, their high degree of labour force participation should account for it. But it was social deprivation and the resultant low nutritional levels that reduced their reproductive ability to low levels. With a better life ushered in by a programme of social uplift during the early 'eighties, this ethnic group showed signs of first a rise in fertility, and on having reached the threshold it has now begun showing signs of a decline attributable to healthier lives.

Similarly, a relatively invisible agent, the prevalent " urban outlook," is shown to contribute to the transition process, and has recently become even more significant due to the intensive rural amelioration efforts of the government. This outlook is all pervasive and permeates the society in general in effecting the transition under review.

To The Memory of My Father and Mother for According Education Precedence over Material Things.

Acknowledgements

My interest in population studies has its beginnings in the early seventies when I was chosen to function as a national counterpart to the UNFPA sponsored Demographic Training and Research Unit of the University of Colombo, Sri Lanka. In pursuance to this involvement, I underwent postgraduate training, first at the International Institute for Population Studies in Bombay and later at the Centre for Population Research at Georgetown University in Washington, D.C. These training programmes gave me the necessary insight into the technical and substantative aspects of demography and were both under the aegis of the United Nations.

Sri Lanka underwent significant declines in mortality and fertility during the postwar period. Revolutionary changes were observed in respect of the former in the 1940s whilst declines in the latter commenced in the 1960s. However, the factors associated with the fertility transition were not an outcome of any improvements observable in the economy as enunciated in conventional demographic parlance. The progress of fertility transition within a developing economic framework drew the attention of researchers in wanting to unravel the determinants contributing to this phenomenon. It created a sense of awareness in me of the outlook and life styles adopted by society and its possible impact on the demographic variables.

Interests in probing these factors was first infused into me by Professor Jeanne C. Ridley of the Centre for Population Research at the Georgetown University in Washington, D.C. who helped me look at some social factors in the fertility transition process in Sri Lanka while I was under her tutelage. Having initiated this interest in me, I was keen to pursue it by making an in depth study of the

underlying socio-cultural factors that contributed to the fertility lowering process in Sri Lanka.

My participation at the International Geographical Union Commission on Population Seminars held in the eighties in the South Asian region brought me in contact with Professor John I. Clarke of the University of Durham who was then the Chairman of the Commission. I discussed with him my interests and study plans and expressed my desire to pursue my doctoral studies at Durham. Professor Clarke always encouraged me and I owe my enrolment at Durham entirely to him.

Being unsuccessful in gaining sponsorship through the demographic programme of the University of Colombo, I had to start on a self supported programme of study. Resources that I collected while I held a senior academic positon in Nigeria helped me to begin. But unfortunately they were inadequate to meet the demands of the total programme. Professor Clarke who supervised my study was faced with the dual task of providing academic guidance and of finding avenues to support my study at Durham. He was of immense help to tide over this problem as he helped me to obtain financial support from the University. I shall always remain grateful to him for the humane approach he showed to my problem. As a supervisor, he was always accessible despite his busy schedules as Pro-Vice-Chancellor and Acting Vice-Chancellor of the University. His excellent guidance and above all his constant encouragement instilled into me the confidence which helped my progress. He is a very kind hearted intellect who steered me through the most difficult times during my study.

With Professor Clarke's retirement, Mr. A.R. Townsend took over the role of supervising my study. He was very sincere and took pains to see that I completed

my task in hand. I am thankful to him for his apt and valuable suggestions and for the close scrutiny of my work. His meticulous approach of drawing up schedules and setting targets helped me a great deal in bringing my study to a stage of completion.

I owe a deep sense of gratitude to Dr. E.W. Anderson, Dr. B.K. Roberts and to Professor I.G. Simmons for having all along watched my interests. They were conscious of my difficulties and helped me by finding resources to support me. In this regard, I am thankful to Dr.M. Richardson, the Principal of the Graduate Society for the financial assistance he was able to provide for me from the Malcolm MacDonald Memorial and Fawcus Trust funds. To Dr. N.J. Cox, I am deeply indebted for the excellent guidance he ungrudgingly extended with his expertise in computing to get my illustrations in shape.

The secretarial and technical staff at the department of Geography were always cordial, friendly and were ever willing to help. Mrs Joan Andrews, Messrs. Derek Hudspeth, Ian Dennison and Andrew Hudspeth always had an answer to my problems. I shall always remain grateful to them for their consistent support.

A special mention goes to my wife Rathy, who had in the process made many a sacrifice to help me accomplish my task. It is unfortunate that she had to give up the prestigious position she held as Principal of a leading girls school in the capital Colombo and took to teaching here. The guilt weighs so heavily on me when I realize that I reduced her to playing more subservient roles in the field of education, very different from what she performed in her career. However, she has come to terms with the new situation and feels happy to have been a source of strength to me. My daughters Lohita and Praneeta were of much help in running

the home. Many matters that normally needed my assistance they handled all by themselves and thus spared my time.

My friends were of much help and contributed towards my progress. Eugene Aniah was a constant companion and was always helpful. Nazem's friendship was special to me. The academic discussions we had, sharpened our approach to the study. It was a pleasure to have had the company of him and his family. Above all his outlook to life meant he had always an answer to my besetting problems.

At a time when the TEXprogramme was fast getting phased out having very few followers, I was happy to continue with it. To this I owe a very special word of thanks to Mr. R. A. Gawley, advisor at the university Computer Centre who helped me at every stage with his able guidance to get this work in its presentable form.

My faith in God and constant prayers gave me the added strength to carry on relentlessly.

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ACRONYMS

AGA	Assistant Government Agent
ASFR	Age Specific Fertility Rate
ASMFR	Age Specific Marital Fertility Rate
CBR	Crude Birth Rate
CDR	Crude Death Rate
CICRED	Committee for International Co-ordination of National Research in Demography
CPS	Contraceptive Prevalence Survey
CTB	Ceylon Transport Board
CWC	Ceylon Workers Congress
EPF	Employer's Provident Fund
ESCAP	Economic and Social Commission for Asia and the Pacific
FPCP	Family Planning Communication Strategy Project
FPFI	Family Planning Foundation of India
GNP	Gross National Product
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IMR	Infant Mortality Rate
IPZ	Investment Promotion Zone
IRD	Integrated Rural Development
IUD	Intra Uterine Device
IUSSP	International Union for the Scientific Study of Population
JEDB	Janatha Estate Development Board
MC	Municipal Council
MOH	Medical Officer of Health
MP	Member of Parliament
MTFR	Marital Total Fertility Rate
NHDA	National Housing Development Authority
NORAID	Norwegian Aid for Development
PHI	Public Health Inspector
PMR	Peri-natal Mortality

PQLI	Physical Quality of Life Index
SBR	Still Birth Rate
SIDA	Swedish International Development Agency
SLBC	Sri Lanka Broadcasting Corporation
SLCS	Sri Lanka Contraceptive Survey
SLDHS	Sri Lanka Demographic and Health Survey
SLPC	Sri Lanka Plantations Corporation
SLWFS	Sri Lanka World Fertility Survey
SMAM	Singulate Mean Age at Marriage
SPC	State Plantations Corporation
TC	Town Council
TFR	Total Fertility Rate
UC	Urban Council
UDA	Urban Devlopment Authority
UN	United Nations
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Childrens Fund
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WFS	World Fertility Survey

Chapter I

Introduction

1.1 History and Ethnic Diversity

The demography of Sri Lanka must be viewed in the light of its history and ethnic diversity. Sri Lanka is an island country situated off the south eastern end of India and separated from it by a small stretch of shallow sea the Palk Strait, in the north. The country is compact and has an area of 25,332 square miles with its longest north to south extent being only 270 miles and the east to west length stretching to only 140 miles at its widest point. The island's strategic location in the Indian Ocean meant it stood on the pathway between the east and the west and thus came to be the focus of attention for entrepot trade. The riches of the " paradise isle " comprising of spices, gems and ivory described by Ptolemy and Pliny, attracted Arabian merchants as early as 1000 AD. Hence the country's ethnic heterogeneity in a way is attributable to its location. However, the two main ethnic groups of the country, the Sinhalese and the Sri Lanka Tamils owe their origin to two migration streams from north and south India respectively. The ancestors of the former are supposed to be Aryans and of the latter the Dravidians.

From the beginning of the 16th century, the country came to be dominated by European rule for a period of four and a half centuries until it gained independence from the British in 1948. European rule set in with the coming in of the Portuguese in 1505. They were followed by the Dutch in 1640. These two powers could succeed in bringing only the maritime provinces under their rule, and retaining control of

only the coastal territory answered their trading interests. However, the British, who ousted the Dutch and gained mastery over the island in 1796, were able to capture and annexe the hitherto independent Kandyan Kingdom in 1815 and thereby brought the entire island under their unified regime.

The period of British rule which lasted from 1796 to 1948 saw many changes that had demographic implications. Subjugating the Kandyan Kingdom meant gaining possession of the environmentally favourable central highlands which led to the opening up of the plantations therein. British investment in this industry was heavy and the labour to work on the plantations had to be brought from South India. This component of the immigrant population added to the already existing diversity in the ethnic composition of the country as they formed the Indian Tamils of Sri Lanka.

1.2 Changing Economic Structure: The Beginnings of Welfarism

The introduction of commercial cropping by the British necessitated the provision of infrastructural facilities like the roads and the railways which linked the plantations to the capital city of Colombo where the main port was situated. Above all, such capitalist oriented commercialization brought into being a transformation in the social and economic milieu of the land. Plantations and the resultant export oriented trade accrued financial benefits to the exchequer. Alongside these changes, the country came to be exposed to, and benefit from, the impact of English education. English education created a class amongst society which became alert if not sensitive to the well being and the needs of the population. The upshot of it all came to be reflected in the provision of better educational and health facilities to the nation. The initial impact it had was seen in the falling death rates.

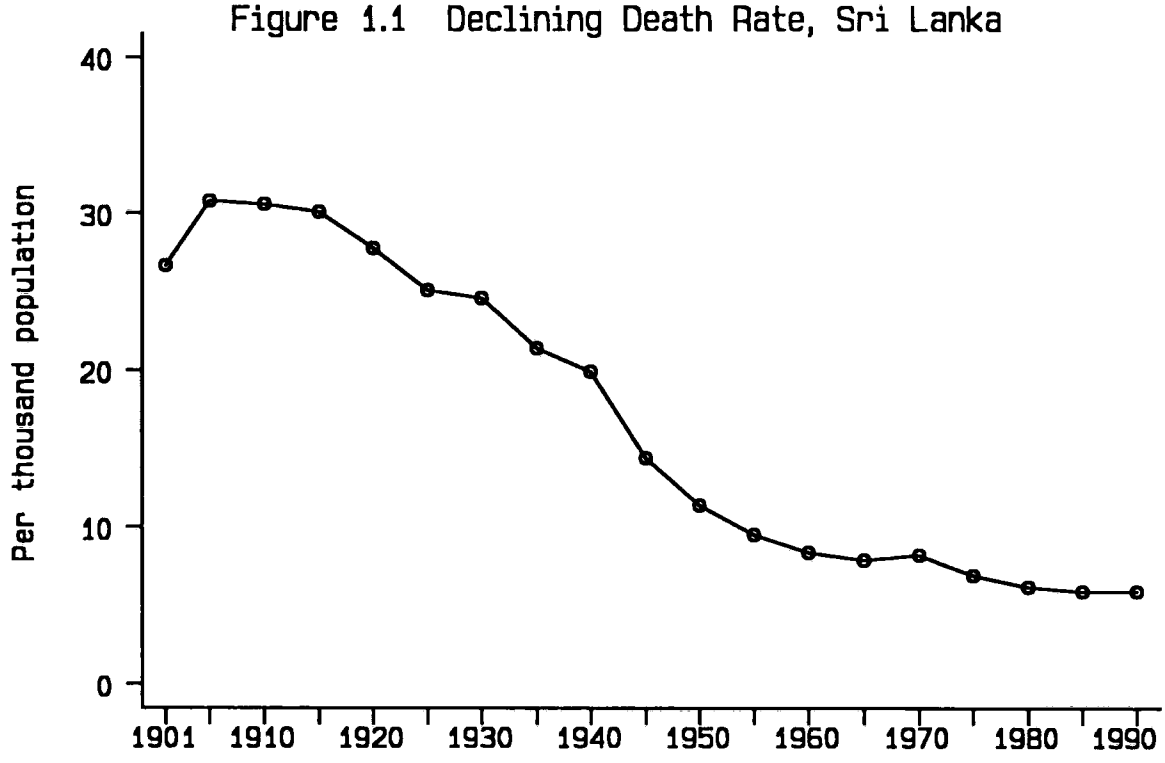
Such beginnings in the provision of welfare measures during times of affluence eventually came to be woven into the political, social and administrative fabric of the country rather permanently. By and large, welfare measures came to be well and truly entrenched in the system after independence and they continued to be used as crucial issues by prospective candidates in wooing support for election to the national legislature of the country.

Amongst the welfare measures offered, the introduction and provision of free education in the early forties had the most lasting impact on the demography of the land. Its tentacles kept permeating into the life styles, outlook, values and aspirations especially of women and thus contributed in giving the necessary force in accomplishing the fertility transition which is a main subject under review in this thesis. Education came to be an asset, active in operating especially in changing the roles of women in society. Women in education postponed marriage which contributed to a rise in their age at marriage. In pursuance to acquiring the skills arising from education, their desire was to play more non-familial roles outside their homes. By and large, it transformed the society of the values held in respect of fertility aided by the 'know how' they came to acquire of contraception. These changes were able to get underway without much resistance, due to the receptivity and the changing attitudes that women came to realize through the process of acquiring an education. All in all, education led them into playing new roles in society, which transformed their outlook towards accomplishing family limitation.

1.3 The Demographic Scene in Transition

Consequent upon these changes, the island of Sri Lanka came to be renowned for its demographic behavioural patterns. Irene Taeuber (1949) referred to the

Figure 1.1 Declining Death Rate, Sri Lanka



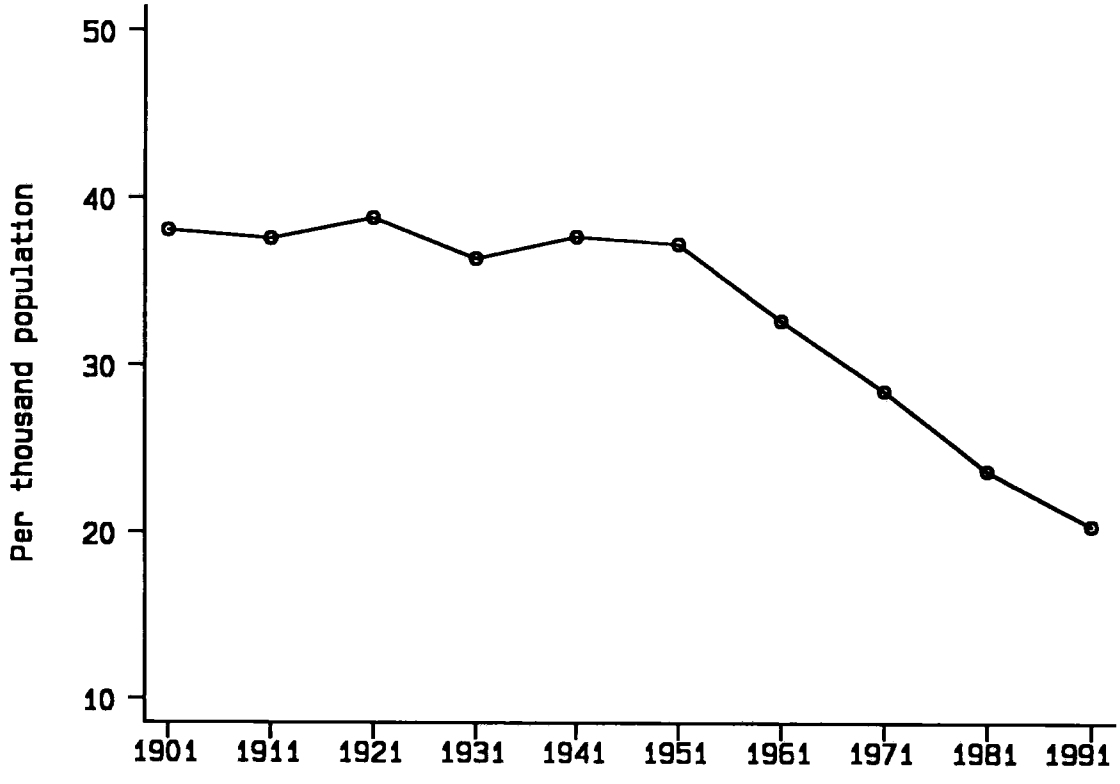
(Data source: Reg. General's Dept., Colombo)

country as a demographic laboratory. The dramatic decline of mortality in the mid forties from 20.3 deaths per thousand population in 1946 to 14.3 in 1947, recording a 30 per cent fall within a year, was indeed revolutionary in the annals of global demographic behaviour. Since 1947, the death rate of the country continued in its course of decline; by 1963 it had fallen to 8.5 per thousand and by 1990 to about 6, by which time life expectancy for males have reached 70 and for females 74 despite low per capita GNP (Fig.1.1).

Such falling death rates came to be reflected in the population growth rates of the country. It is pertinent to cite that between 1871 and 1946, during a period of 75 years, the population grew by 4 million, whereas the second 4 million was added within a short period of 17 years between 1946 and 1963. The phenomenal decline in mortality, without a corresponding reduction in the birth rate, resulted in a doubling of the population from 6.6 million in 1946 to 12.7 million 1971, a doubling time of only a quarter century.

Opinion differed amongst researchers as to the factors that contributed to this remarkable decline in mortality. Newman (1965) attributed it purely to the eradication of malaria, achieved through the D.D.T. spraying campaign which helped wipe out the killer. Meegama (1967) contended that improvements in the health services and the nutritional levels of the population accounted for its significant fall and that it was not due to the eradication of malaria *per se* as he points out that malaria eradication was ineffective in lowering mortality levels in Guatemala during the same period. Meegama regards malaria as one of the diseases that contributed to high mortality and that its eradication alone could not possibly account for declines in deaths caused by other morbid conditions. Nevertheless, no single factor could be put forth to account for the precipitous fall in mortality,

Figure 1.2 Declining Birth Rate, Sri Lanka



rather a combination of factors, some intrinsic and others extraneous provides the answer. Selvaratnam (1970) regards the period following the second world war as having witnessed a demographic revolution. It was a painless revolution without any loss of lives and was a revolution which saved lives and increased their survival rates.

However, the decline in fertility lagged behind, because for a period of five decades between 1900 and 1950 the crude birth rate of the country had remained fairly steady around 38 births per thousand. Therefore the acceleration of the rate of growth of the population after 1946 was due to an increase in the rate of natural increase caused by the widening disparity between the birth and the death rates in the country.

Sri Lanka now provides a classic example in fertility transition, both in historical and in comtemporary contexts. During the 1946-71 period, the birth rate fell gradually from 39 to 36 births per thousand. In the 1970's, there began a period of rapid decline reaching a crude birth rate of 27 in 1974. Subsequently, between 1974 and 1981 it fluctuated between 27 and 28 and kept declining continuously thereafter as in 1983 it stood at 26.3. By 1986, it declined to 22.3 and in 1989 there was a further decline to 21.3. The 1991 figures indicate a crude birth rate of 20 per thousand. These are based on data provided by the Registrar General's Department of Sri Lanka and compiled by the Statistics Department of the Central Bank of Sri Lanka. The total fertility rate aligns with the crude birth rate which dropped from 5 births per woman in 1961 to 3.4 in 1980-82. The estimates provided by the Economic and Social Commission for Asia and the Pacific (ESCAP), Population Division indicate that in 1986 it declined to 2.8 and in 1991 to 2.6 births per woman. Apparently these fertility indicators are the lowest for the

South Asian region (Fig.1.2).

The fact that the recent transition has taken effect without either direct governmental legislation, or significant economic development resulting in any rise in the standard of living, makes it all the more puzzling and provides a tempting ground for investigation. The country provides a unique social and economic setting. Generally, its present demographic characteristics are those usually associated with nations at substantially higher levels of development than Sri Lanka.

For example, in 1984 Sri Lanka had the lowest GNP per capita in South Asia of $ 344, a figure far below other developing nations in the region such as Malaysia ($ 1990), Phillipines ($ 660), Thailand ($ 850) and Indonesia ($ 540) but had the lowest birth rate of 25 per thousand, with the other countries recording birth rates ranging from 26 to 33 per thousand. In 1990 the Sri Lanka picture showed a further decline in the birth rate to 20 births per thousand with a GNP per capita of only $ 467 whilst Malaysia ($ 2320), Philippines ($ 760), Thailand ($ 1420) and Indonesia ($ 550), with higher GNPs recorded higher birth rates of 30, 29, 22, and 26 births per thousand respectively. These are figures published by the statistics department of the Central Bank of Sri Lanka and drawn from data from the World Development reports and from key indicators of developing Asian and Pacific Countries.

Hence, Sri Lanka becomes a case where social development and the resultant demographic changes seem to have preceded sustained economic development. The striking changes documented in fertility deserve attention especially because they have taken place under relatively unfavourable economic conditions. However, there was consistency in the efforts at social development and Sri Lanka is often

referred to as a low income country with a high degree of social advancement.

1.4 The Background Generating the Transformation

The groundwork for achieving social advancement began prior to independence. With the Donoughmore Constitution of 1931 granting universal adult franchise, there arose a situation which demanded the legislators to be sensitive to the needs and welfare of the electorate they represented. The newly established export - oriented sector gave economic strength to the exchequer with its foreign exchange reserves. These resources came to be chanelled first into land settlement and colonization schemes which were intent on re-establishing the glory of the past. For, until the ninth century A.D. the heartland of the country was essentially confined to the plains which flourished as a result of the extensive paddy cultivation supported by an ingenious system of irrigation. It was then a civilization based purely on rice production. Moreover, at that time in the country's history, the available technology in relation to agriculture could only utilize the non-mountainous terrain. Alongside these efforts to rehabilitate rice cultivation, there were other measures associated with day to day life, like the food subsidy and the provision of free education and health facilities to all. Karunatilake (1975) regards the food subsidy scheme as one that met the wartime scarcities that arose in the forties. Thereafter, food, education and health came to be the three vital welfare measures which came to be provided uninterruptedly to the nation.

Planning for development started on the eve of political independence with the post-war development proposals of the Board of Ministers of the State Council in 1946. With independence gained in 1948, development plans were drawn up by the government. The Ten Year Plan of 1959 and the Five Year Plan of 1971

formed policy documents. The development model was based on these plans and they became the basis for action in the sixties and seventies. It is noteworthy that all post-war development proposals gave high priority to social development as it was deemed to be a prerequisite for human resource development. The general line of thinking was that, given the stage of development which then prevailed, the outlay on education and health would pay the best dividend. The main feature of the model was that all development plans maintained the tempo of the expanding education and health services. Therefore, the cornerstone of national policy from the forties was to offer a welfarist package of free education, free health service and generous food and other subsidies. The propensity of the government towards social welfare programmes meant that there were other areas of public utility like transport, electricity and water supply which were provided at nominal levels. Moreover, road and rail transport services (the former being nationalized in the sixties) were not run with a profit motive but functioned more as a service to the larger community. In this regard it should be noted that with the nationalization of the bus services the Ceylon Transport Board (CTB) put service before profit and extended its services to remote parts of the country which the private sector ignored, serving, as they were declared, as unproductive routes. All in all, the government was bent on providing the services that were vital for the larger interest, more as a welfare measure without any profit motive behind it. The significant aspect of it all was that it was provided without social class or gender based discrimination.

The upshot of these policies was reflected in the network of schools that came to be established to meet the expanding societal demand for education. Similarly, there were significant improvements in the health services through an extensive

system of ante-natal, post-natal and maternity health facilities provided by an island-wide spread of dispensaries and hospitals. The long stops to these services were provided by a string of field health personnel who helped in the process of improving health standards both in the urban and rural areas. Such efforts helped in combating death and in reducing the mortality rates in the country. These programmes focussed on the family, more specifically the mother and the child.

All these welfare measures, which were bent on meeting the larger interests and designed to reach everyone, came to be reflected in impressive demographic and social indicators. The birth and death rates came to be at par or even better than the developed parts of the world, as a crude death rate of 5.5 per thousand today is indeed a remarkable achievement. Other associated mortality indices like infant and maternal mortality showed marked improvement resulting in impressive life expectancy figures of 74 for females and 70 for men. Literacy rates, especially those of women, made steady improvement and now showing signs of converging with that of men. The gap between urban and rural literacy is steadily narrowing with certain districts showing higher literacy amongst the rural population.

The World Development Report (1981) of the World Bank indicated that in 1980, Sri Lanka's record of life expectancy, literacy and fertility (in relation to its low income levels) was one of the best in the world. The report added that the government spent on an average over the previous two decades nearly 10 per cent of the GNP on education, health and nutrition programmes. The report for 1993 indicates that the life expectancy at birth of the population is 70 with 88 per cent of the females literate and a birth rate of 20 per thousand population. Demographic estimates provided by the ESCAP for 1994 reveal that the male and female life expectancy is 70 and 74 respectively. Arising from these indicators, Sri

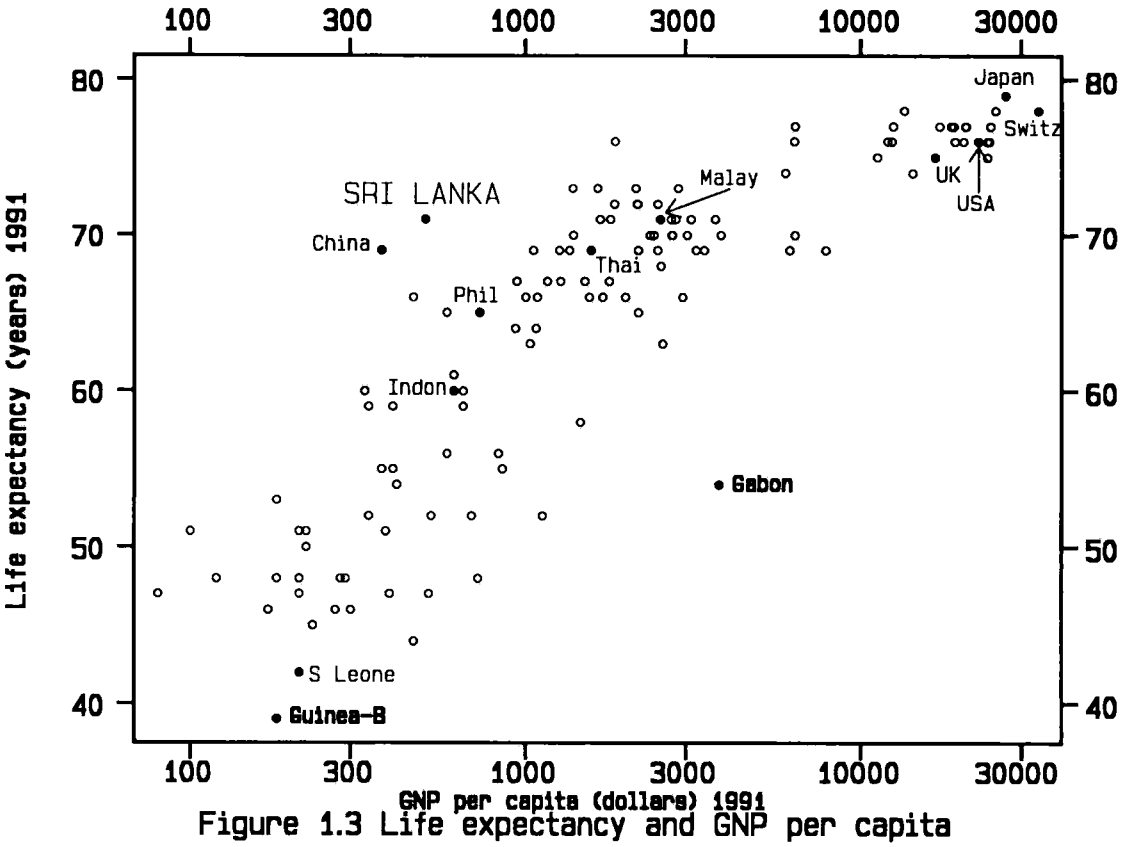


Figure 1.3 Life expectancy and GNP per capita

Lanka shows impressive ' Physical Quality of Life Index ' (PQLI). In fact, the PQLI for Sri Lanka was higher than that of Washington, D.C. (Farmer: 1983). Since then, the demographic situation of Sri Lanka has remained exceptional, largely as a result of social welfare policies (Fig.1.3).

As mentioned already, emphasis on social welfare dates back to the thirties when Sri Lanka was granted a degree of self government based on universal franchise. Hence leaders and politicians were compelled to lean heavily on the electoral process to maintain themselves in power. To achieve this end, social services and the associated welfare measures were their main instrument to success. Hence, welfare policies remained undisturbed and were given pride of place. This outlook gathered momentum after independence in 1948 when politicians with different ideologies formed into competing political parties, and came to be more sensitive to popular demands. Consequently, even during periods of adverse economic conditions experienced in the mid' seventies, caused by an unfavourable balance of payments situation, the outlay on welfare services and on the import of foodstuffs to maintain the basic rations continued unrelentingly. This conveys that the pace of fertility decline in Sri Lanka had continued uninterruptedly, insensitive to any booms and depressions in its economy. Abeysekera (1986:308) states " Sri Lanka's remarkable social progress may be a convincing case to all developing countries to prove that meeting basic needs and raising living standards must not necessarily await rapid economic advancement."

1.5 Economic Development vs Social Development

In respect of fertility transition, Sri Lanka deviated from the conventional dictum maintained by demographers. Hauser (1970) and Davis (1970) associated

fertility decline with socio-economic advancement, as this line of thinking was associated with and regarded as a pre-condition for the successful implementation of family planning programmes. But the model seems inapplicable in the Sri Lankan context due to the degree of receptivity the country's population has to family planning, which the expansion in education was able to deliver, independent of the levels of socio-economic advancement attained by the country. A similar deviation of a very striking nature was experienced when the mortality rates underwent a precipitous decline in the forties with no apparent advancement in the economy. Such a dramatic transformation again found no explanation from an economic standpoint.

Hence what was conceptually outlined by Notestein (1945) in the demographic transition theory, and found wide application in the behavioural trends of mortality and fertility in the industrialized West European countries, failed to fit into a developing context found in Sri Lanka. Moreover, the decline in mortality which occurred in the developed situation took a gradual course, whilst in Sri Lanka the decline was so dramatic as it occurred in less than a decade. There is thus an essential difference between the demographic experience of the West during the nineteenth century and that of Sri Lanka in the twentieth century. In the former, the transition had its roots in the process of economic development and the resultant technological improvements that it was gradually able to offer to the population.

Economic development was conceived as the basic mechanism that would enact demographic transition and it was argued that development and the resultant process of modernization would enable the living standards and the quality of life to be on the ascendant with the provision of better health facilities and other re-

lated vital amenities for life. These changes, Notestein regarded, would transform the aspirations of people and make them look forward to the future. The upshot of it all would mean that old customs would crumble and fertility would tend to decline. Hence it basically warranted efforts to be channelled in the direction of achieving a modernized society. The course of change however was to be triggered off by the process of industrialization which would make the entrepreneur grant higher wages to employees. Consequent upon granting higher wages, there would be a concomitant rise in the standard of living. Above all, with the process of industrialization, quality goods and services would be made available and the people's aspirations in turn would be to acquire these so as to improve the individual's social standing in society. They are basically an outcome of fresh standards being laid down for a more satisfactory mode of living. The resultant effect of it all was felt on the fertility performance of couples which was progressively lowered so as to enable them to achieve and experience the comforts and benefits of the rising levels in the standard of living which technological advancement began to offer. Therefore, children, and bearing more of them, would lead to denying them the newly innovated luxuries and comforts offered by modernization.

Nevertheless, Notestein was later able to see the changing scenario and how non-familial roles came to predominate with the growth of individualism and the awareness that came to be ushered in by education. Hence he was conscious of the on-going change and was able to foresee the social transformation that was to follow in effecting the transition under review.

Above all, demographic transition, as outlined in the theory, is a macro phenomenon, gaining strength and application by the association that economic advancement had with demographic variables such as mortality and fertility. This

study is confined to fertility transition and hence needs to be distinguished from demographic transition. Demographic transition came to be intimately woven with the process of technological advancement, whereas fertility transition has its determinants in the elements of social change. It has its links more with advancement in outlook and thinking and hence is insensitive to economic trends, resulting thereby in changing perceptions and aspirations especially in respect of women. It is a change that contributed to curbing natural fertility and made women take up family limitation. It is this change in attitude towards fertility, a product of social change, that helped in the transition process. Coale (1986) points out that the fertility behaviour of couples is a function of already achieved parity status. Hence women as mothers, being conscious of the number of children they already have, tend to regard additions as unnecessary. This, in Sri Lanka is centred around the social transformation that education had brought to bear in changing their aspirations, which is a desire to play roles in society, a preference sought over higher parity. Knodel (1987) refers to such actions as " stopping behaviour." Basically, it is a family limitation function whereby women in the reproductive age group opt to terminate child bearing despite their possessing the physiological ability for reproduction. Women are able to achieve their conscious choice to limit their families, being receptive to family planning programmes widely available in the country. Such behaviour, though, tends to have economic reasons, is viewed as social and is grounded in culture, the product of new norms and values that are shared and transmitted (Van de Walle: 1992), when family size becomes a product of conscious choice and not an outcome of normal marital behaviour of couples insensitive to fertility levels.

In Sri Lanka, reproductive decisions may be deemed as being determined by

conscious choice, as couples control marital fertility. High fertility was regarded as advantageous in agricultural societies. Moreover, when mortality levels were high, fertility levels had necessarily to remain high with minimal survival rates. When exogenous factors brought mortality rates down, resulting in survivorship becoming a high probability, there was no longer a need to keep fertility levels high on that count. With the passage of time, with the total package of education being imparted free, children availed themselves of the educational opportunities offered and thus came to be transformed from being producers to that of consumers. This, coupled with the changing aspirations of women from one of bearing and rearing of children to that of playing roles outside their homes in productive employment, made reduced fertility advantageous. Above all, with effective techniques of fertility reduction widely available and contraceptive knowledge high among women (WFS: 1975 ; SLDHS: 1987) family limitation was well within their reach. Methods such as prolonged lactation were an earlier social method of fertility control, and modern methods of family limitation have been a response to new conditions of life.

Social change in general tends to have a wide connotation. In Sri Lanka it needs to be regarded as " social modernization," not necessarily associated with economic modernization which stems from industrialization and gets associated with institutions and organizations normally identified with industrial nations. Nevertheless, one cannot refute the westernization that was infused into the Sri Lankan society by four and a half centuries of western rule with English education and Christian missionary activity dominating during the period of British rule. With the initial pace set by English education, the effects of an imported foreign culture came to be felt. This tempo gathered momentum after the forties with the

introduction of free education when education came to act as the fulcrum for social change. With educational advancement and the resultant changing aspirations, the rising age at marriage of women and the concomitant change in the roles they began to play in society formed the basic societal change which contributed to lower fertility. All in all, the transformation that surfaced and the resultant decline in fertility convey that the economic advantages of high fertility declined as couples came to be highly conscious of the cost involved in bringing up schooling children.

Social change brings forth a change in the social structure and this in turn has its impact on the demographic structure. The product of this change is reflected in couples opting to limit their family size. The basic transformation that had brought visible change is the success that education has seen in instilling into society an outlook which regards low fertility as advantageous. This has been achieved rather uniformly throughout the country due to the provision of equal opportunities and the concomitant equal attention paid by the state to both the urban and rural areas, which kept the disparity in the distribution of services in the country to the minimum.

1.6 Objectives of the Study

The main objective of the study has been to investigate and interpret the factors that contributed to the decline in fertility in Sri Lanka. Basically attention is focussed on identifying and measuring the impact of certain selected variables seen as the more dominant in effecting the transition to a stage of lower fertility. With a view to ascertaining the socio-cultural transformation that enhanced Sri Lanka's consistent decline in birth rate, the study seeks to elaborate and establish the roles played by education, the resultant rise in age at marriage, and the function

that gender plays in the decision making process in respect of fertility, female labour force and its bearings on fertility behaviour. The intention is to assess the impact of women's education and employment as determinants of delayed marriage and the resultant small families. The study highlights the prevalance of an " urban outlook " in society, regarded as a product of the social change undergone by the population irrespective of their residential location in the country, and hence regarded as all pervasive. Although it may be hard to measure this outlook, there are visible signs of its presence amongst the population. It is not confined only to areas designated as urban but is more widespread and permeates the rural areas. Thus urbanism remains understated by the urbanization figures provided by the census and tends to cloud the impact it has in promoting the fertility transition now underway.

1.7 Assumptions and Contentions

The Sri Lankan society has reached a stage of regulating reproductive behaviour. It is a shift in behaviour from " natural fertility " to that of " controlled fertility " performance so as to achieve family limitation. Basically the model postulates these achievements as a product of, and being motivated by, the mechanism of social change, the interplay of its agents having demographic implications in lowering fertility. The following assumptions are made:

(i) Female gains in education and fertility show a negative correlation as there is an inverse relationship between completed years of schooling of mothers and children ever born. Universal free education made high fertility disadvantageous as children came to be transformed from being producers to dependants.

(ii) Rising age at marriage lowers fertility. This behaviour is determined partly

by the expansion in education and the concomitant opportunities it provided in gainful employment, and partly by the deep seated socio-cultural factors woven into the fabric of the Sri Lankan society.

(iii) Gender equality *per se* is less effective an instrument to lower fertility. It is the economic strength provided to women by the process of removing gender inequality in education, yielding them equal opportunities in gainful employment or the financial support they acquired through a dowry, that could determine their contribution to the decision making process to lower fertility within marriage.

(iv) Poor socio-economic conditions caused by discrimination and the resultant societal deprivation surrounding sub-populations will result in low fertility performance due to their physiological inability to reproduce, thereby providing a deceptive but impressive picture of low fertility amongst such populations. This aberrant fertility behaviour begins first to rise with the provision of better life and, on having reached the threshold in this direction, takes a downward course reflecting the impact of the on-going social change in the country.

(v) The degree of urbanization reflected in the national records is an understatement of the extent of urbanism in the country. The outlook normally associated with urban populations is far more widespread than the limited extent conveyed by the urbanization figures. Hence, the urban-rural dichotomy does not denote any distinct areal segmentalization in thinking. The urban-rural continuum is justified in the light of the narrowing urban-rural gap in respect of the provision of services and amenities. Accompanying this phenomenon is a convergence in the urban outlook with its accompanying values,

attitudes and aspirations identified with social modernization and small family norms. All in all, human fertility is a dependent variable that is sensitive to changes occurring in the social milieu.

1.8 Data

Irene Taeuber (1949:293) states " less widely known, but equally fascinating, are the seven million Ceylonese whose lives are reflected in the manifold statistics that lie unused in volumes collecting dust in the libraries and government offices of the world." Much value and emphasis was added to the registration of vital events, when in 1847 the registration of births and deaths was made compulsory by an ordinance. Later, in 1893, the failure to register births was made a punishable offence. The registration of marriage became compulsory for most ethnic groups during the mid nineteenth century. The first census exercise in Sri Lanka dates back to the year 1814 and regular decennial censuses have been taken from 1871. The last census of population was taken in 1981. Unfortunately, the 1991 census of population had to be postponed on account of the prevalent political unrest in the country. This has created a major gap in the long and continuous collection of statistical data maintained in the country.

Sri Lanka has maintained reliable data on fertility, thereby enabling studies. Vital statistics on births by age of mother for the country as a whole and by districts are kept from 1956. A sample survey carried out by the Department of Census and Statistics in 1980, to estimate the completeness of birth registration, revealed that it was 98.8 per cent complete. Alam and Cleland (1981) found that vital registration data in Sri Lanka was not affected by any over - or under - reporting of events and that vital events were adequately covered by the prevalent registration

system. This is essentially attributed to the fact that the birth certificate in Sri Lanka is a vital document of evidence for parents who avail themselves of the welfare measures provided by the state, like the rice rations, the food stamps, school admission etc. The birth certificate establishes one's citizenship and helps in the process of obtaining a passport. With employment opportunities and examinations for entry to the various services in the public and private sectors carrying age limits for entry, the birth certificate becomes a very valuable document when seeking employment.

Data from the national censuses of population have been used to look at fertility trends over the years. This was possible only up to 1981 due to the postponement of the 1991 census. Moreover,since the 1981 Census of Population has had no questions on aspects of fertility, it had to be put to limited use in this study. One of the reasons for this omission was the holding of the Sri Lanka World Fertility Survey (SLWFS) in 1975 where 8834 housing units were drawn from a list of all housing units in the selected census blocks which totalled 750. Within each selected housing unit, all households were included in the sample and all ever married women aged 12 to 49 were interviewed in fair detail. The survey obtained data on marital status, work history of married women and their husbands, their educational attainments, housing conditions and household assets. Subsequently in 1982, the Sri Lanka Contraceptive Prevalence Survey (CPS) was carried out. This was a national sample survey designed to obtain information on contraceptive use and fertility. The Department of Census and Statistics was able to draw on the data provided by this survey to provide tabulations on levels of fertility, knowledge, use and availability of contraceptives for the country at large and by urban - rural types of residence. These data are based on a nationally representative sample

of 4500 ever-married women in the age range 15-49. In addition to the above, the Sri Lanka Demographic and Health Survey (SLDHS) of 1987 provided data on fertility, family planning, and maternal and child health. For the purpose of the survey, the country was divided into nine zones, basically designed to cover homogeneous sub-groups. Each of these zones were stratified into three, the urban, rural and estate areas. In each zone a total of 900 interviews were carried in private households of ever-married women aged 15-49. However, the zone which provided coverage to the estate plantation workers had a sample size of 1,350. This was to accommodate over- sampling of the estate plantation workers.

The study had also drawn on the Socio-economic surveys of 1969-70 and the Consumer Finance and Socio-economic Surveys of 1981-82 conducted by the Central Bank of Sri Lanka. The Review of the Economy series, the Annual Report and the Economic and Social Statistics, all published by the Central Bank of Sri Lanka provided data to unravel the current trends in the socio-economic indicators relevant to the study. Since this present study looks in depth at the role that education plays in the fertility transition process, data to establish the current trends in primary, secondary and tertiary education of females were drawn from the educational statistics provided by the Ministry of Education and Higher Education and the University Grants Commission. With education and employment of women included in the main objective of the study, these secondary data provided an adequate reference base to the analysis.

With a view to measuring the prevalent " urban outlook " in the country, secondary data is being used to ascertain its pervasive nature. Government publications, especially those reflecting the rural " re-awakening " programmes in respect of socio-civic amenities have been utilized. In addition, rural samples of

householders lists maintained by the decentralized district administrators were consulted to determine household size and the rural fertility levels. In this regard, *ad hoc* publications released by the government on housing and other measures bent on ameliorating the masses to effect the programme of social uplift, compensated in unravelling the prevalent trends in socio-cultural aspects affecting the transition process under review. Recent data on demographic and socio-economic indices of the estate population were obtained from statistical publications put out by the Sri Lanka State Plantations Corporation. Finally, demographic data provided by the United Nations, Economic and Social Commission for the Asia and Pacific (ESCAP) were used especially to trace the changing trends in fertility indices.

1.9 Limitations

The nature of the study necessitated the use of data collected at the " macro," i.e. national level. This approach to my study is an outcome of the inability to conduct any independent field investigation in Sri Lanka. The persistent ethnic strife which permeated and plagued the land during the late eighties, and the resultant turbulent political situation that prevailed from the time of my embarking on this study in early 1988, led me into adopting this approach to my study. During the early period of my studentship the situation escalated into a virtual war between the national army and the militants both in the north and in the south of the country. The situation thwarted any prospects of carrying out any field investigations. Hence this study is being attempted utilizing published data on population and socio-economic variables. The country's inability to conduct the 1991 census of population is again a major setback resulting in heavy limitations in discovering more recent trends in the variables under review. The Sri Lanka Demographic and Health Survey of 1987 had to exclude two of the nine zones

situated in the north and in the east from interview coverage due to the prevalent civil unrest. This amounted to an exclusion of about 15 per cent of the total population from the survey. Similar omissions were noted in the statistics provided by the Ministry of Education and Higher Education.

1.10 Conceptual Framework

The study is thematically centred around two central concepts and hypotheses that the process of human fertility transition is a product of, or dependent upon, the transformation undergone by society during the passage of time, meaning thereby that the changes taking effect in the former are dependent upon or an outcome of the contribution and the changes sustained in the latter. However, social change does not form a single component interacting with the population but has built into it elements of varying dimension, each with a wider scope and possessing the driving force that contributes to in determining the levels of fertility amongst society. In the context under review, by fertility transition is meant a change towards lowering human fertility, and social change denotes the change that is undergone in the socio-cultural setting of society.

Fertility is defined as the " actual reproductive performance " and gains application in respect of individuals or groups. The definition no doubt connotes natural fertility and hence needs to be regarded as uncontrolled fertility, as against fertility performance achieved through a process of conscious choice of individuals or groups. Accepting the conventional boundaries of the definition of fertility, any transformation towards a decline from a high plateau position may be attributed to intermediate variables. Hence a shift in fertility performance, on being caused by the interplay of the intermediate variables, tends not to reflect the natural fertility

of populations but a restricted performance, a product of, and one sensitive to, the prevalent changing societal norms and values. The elements contributing to this change are universal education, rising age at marriage, women's employment and the resultant changing aspirations and values. Amongst the variables reviewed, education plays a crucial role as it is a route to lower fertility through the opportunities it is able to offer women in the labour market. Women engaged in gainful employment would find child rearing conflicting with their occupational roles, as they would weigh the economic gains achieved through employment against bearing children and bearing more of them. Above all, education enhances their status in society and improves their knowledge for achieving family limitation, on becoming receptive to family planning from their exposure to the wider world through education. Summarily, it is an outcome of the changing attitudes that education was able to deliver to fulfil their aspirations associated with a career and the desire to enjoy the fruits of all that it could offer. The product of the interplay of these variables brings forth a change in outlook which is conceptualized to mean " Urban Outlook." With industrialization and urbanization often associated and identified with modernization, urban outlook is conceptualized here to mean 'modern outlook'. Stemming from such a notion of thought is a desire, a willingness to restrain fertility so as to be able to be free to partake in gainful employment and enjoy the benefits of modernization. The upshot of it all results in a fertility performance to suit the changing situation, which does not reflect their natural capability to reproduce but a fertility performance that represents their conscious choice which reckons and accommodates the changing scenario in lifestyles.

All in all, the transformed fertility performance is yielded by the linkages that the population has had with the changed framework of the socio-cultural milieu,

contended to mean that change in fertility behaviour needs to be associated with social change that the society undergoes. Culture is a determinant if not an explanatory factor in respect of fertility performance, and is woven into some of the variables under consideration. In respect of rising age at marriage, cultural effects like the caste system, dowry and horoscope matching of prospective marriage partners form part of the construct of the socio-cultural organization. Hence there are both deep seated causes which are well entrenched in society, and others that are an outcome of social change which are relatively recent. The former reflects the stamp of cultural identity and the latter a sequel to social change, the super imposition of which makes delayed marriage more of a norm than an exception.

The aggregate effect of the social transformation that contributes to lower fertility is conceptualized as being embodied in the " urban outlook " prevalent in the Sri Lankan society. This outlook is all pervasive, having permeated both the urban and rural settings in the country. By a process of appraising and documenting the consistent efforts of the government to raise mass standards and redress poverty by providing socio-civic amenities, an attempt is made here to measure and to highlight the more equal provision of services and the resultant weakening of the conventional urban-rural dichotomy. Arising from this background is the emergence of more consistent behaviour by society in general across the country in respect of fertility performance, as uncovered by recent surveys (SLDHS:1987). The diminishing urban and rural differentials seen in surveys such as the SLDHS (1987) bear testimony to this trend.

Human fertility is not necessarily to be deemed an outcome of any single determinant, as it stems from a complex web of socio-cultural factors. The interplay of them has important policy implications and contributes to nurturing an outlook

that could discourage high fertility which empirical analysis might find hard to unravel. Hence if conventional causal explanations adopted by some social scientists fail to uncover the underlying factors, there yet could be some others of an invisible nature determining the process of lowering fertility.

Chapter II

Educational Attainment And Fertility Transition

2.1 Introduction

Education plays a creative and progressive role in bringing forth change. Most societies in the developing world are very much aware that schooling leads to profound social change. There has been agreement in this direction amongst contemporary researchers, Mead (1956), Sutton (1965), Fraser (1962), Mandelbaum (1970) , Read (1970), Wiser and Wiser (1969), Carnoy (1974), Masemann (1974) and Giraure (1975). One of the most important segments of social life through which the population interacts is education, and the progress of nations in the modern world is increasingly dependent on it. Caldwell (1980) indicates that mass schooling in the contemporary developing world has had greater implications for changing family relationships and declining fertility than it had in the West, as along with education a foreign culture was imported. This culture set fresh norms and values to society. Above all, the educational factor contributes in the dissemination process. It results in or contributes towards cultural mobility. Lesthaeghe and Surkyn (1988:17) conceive the role of education differently from the economists who view it as a price of human capital in the labour market. Instead, they regard education as a culturally rich capital which determines and shapes values, preferences and aspirations in respect of marriage, its timing, fertility, family size and other factors such as career development which are playing roles outside the homes.

The essential function of education is not only to get the learning and the resultant process of interpretation underway, but also to effect a change. Generally, education tends to intervene and rescue people from mental stagnation and from other prevalent social problems as it meets their aspirations. It acts as a powerful instrument of motivation, giving energy and direction to human effort. It helps to evoke and better a national programme, to adopt a new way of life in the light of problems anew. In the process it brings forth reconciliation between heritage and change. However, although education preserves heritage it does not necessarily preserve tradition, as people become more progressive in outlook and want to change any long established practices which were handed down to them. Hence the modern function of education is to change the material foundation of society, and the progress of the developing nations in the modern world does increasingly rest upon the roles played by education within society.

Sri Lanka has had a long tradition from ancient times of laying emphasis to education which had all along been through religious propagation. There was *pirivena* education in ancient times which was a centre of Buddhist learning for the monks and laymen. The onset of foreign rule in Sri Lanka which began with the coming in of the Portuguese in 1505 formed a kind of a water parting between the ancient system of education and the newly created system which came to be introduced with exceptional missionary zeal and led to the starting of missionary schools. In this regard, mention needs to be made of the roles played by the Catholic church in imparting knowledge as it had been a kind of watchful and solicitous mother of education. Hence the church could claim to have not only spread the divine light but also that of human knowledge. Schools, colleges and universities sprung up under its fostering care, the basic tenets of the Catholic

missionaries being that religion and education should go hand in hand. The late Cardinal Manning once said that if he had a choice between churches and schools, he would give up the churches and keep the schools. This outlook persisted under the Dutch and the British and by 1903, there were 379 Catholic schools with 34,405 pupils of whom 14,435 were girls. Such a pattern of educational institutions turned out to provide in a limited way, not merely men and women of culture but of virtue, useful citizens and loyal subjects. The influence of these institutions was so widespread that even the Anargarika Dharmapala, the Buddhist prelate who later led the Buddhist reform movement and devoted his life to religion and the welfare of humanity, came initially under Catholic tutelage.

However, at a time when the Christian missionary zeal heightened and English education came to be a powerful weapon for upward social mobility, the Christian missionaries had almost the monopoly of education, and in the process of extending the benefits of education to the children, they were getting systematically converted to their faith. To stem the tide of proselytization, there originated religious re-awakening movements with efforts mooted by both Buddhist and Hindu revivalists wanting to establish schools maintaining their respective religious identity. Anargarika Dharmapala and Arumuga Navalar were two religious revivalists for the Buddhists and the Hindus respectively who spearheaded the move . The outcome being that in the eighteen nineties, premier Buddhist and Hindu schools came to be established in Colombo and in Jaffna respectively. With the passage of time more of their kind sprang up in the north for the Hindus and in the south for the Buddhists, and notably they functioned with state assistance.

Nevertheless, missionary effort did contribute a great deal towards meeting the educational needs of the country. During the early years of British rule missionary

activities were confined almost entirely to the Roman Catholics, but in 1812 some Baptist missionaries from England established themselves and were followed in the course of the next six years by the Wesleyans, the American Mission and the Church of England. All these bodies, English, Roman, and American made schools a prominent part of their work and to their efforts the country owes a substantial part of such privileges in the way of education as it has enjoyed. However, it was a dual system of schools established by the British, whereby on the one hand they provided quality education with competent teachers in well equipped fee-levying English medium schools to the selected privileged lot who were being led into the learned professions, while on the other hand there were the non fee-levying vernacular schools where the quality of education and those to whom it was imparted were both poor. This situation had to change and traces of wanting the transformation surfaced before independence in 1948, when in 1943 the Special Committee on Education recommended that education should made free at all levels and that the medium of instruction should be through the mother tongue. These measures came into force in 1945.

In Sri Lanka, change through education tends to reach the greatest number. In this regard, the dramatic changes ushered in by the introduction of the free education system during the mid forties is a major landmark in the country's history. The scheme not only provided free tuition up to the university level, but also was designed so as to bear the sum total of the expenditure to be involved in this direction. Because under the scheme, the salaries of teachers and all supporting staff, the cost of school buildings, equipment and its maintenance were all to be borne by the state. Above all, there were scholarships and bursaries provided while at school and at the university to students whose parents' income was low.

This facility helped the needy but the capable who came from a poor background from being deprived of higher education and a career that provided a promising future for those in such a state of deprivation. Caldwell (1980:226) contends that " universal schooling makes a case for greater social justice and for a ladder for gifted individuals from poverty to middle class comfort," and that most developing nations display strong associations between the level of education achieved and demographic behaviour.

The past four and half decades have seen some important developments in the educational system in the country. Firstly, the introduction of free education from the kindergarten to the university and secondly, a change in the medium of instruction from English to the mother tongue. These were indeed significant changes in the light of the long-term effects they brought forth to the Sri Lankan society. With education, and especially higher education, leading one into professional programmes of learning declared free, it ceased to be a service for only the privileged.

Earlier, the poor could neither gain access to, nor afford quality education because it was imparted through only a few fee-levying English medium schools with highly qualified teachers and good facilities, preparing students for entry into the learned professions. In this setting, the poor faced a dual hurdle of finances and the learning process being in English to gain access to the system and thus quality education remained a privilege only of the elite. The non-fee levying vernacular medium schools located in the rural areas which were meant for the masses lagged heavily behind the English medium schools, with poor quality teachers, and facilities kept to the bare minimum with the learning process confined to the mother tongue only. This pattern was basically an outcome of the missionary zeal and their

desire to locate schools mainly in the towns and cities. But with the switch over to *swabasha* (mother tongue) as the only medium of instruction, children in the rural areas started entering the mainstream of education in large numbers. Moreover, with education, and especially higher education leading one into professional programmes of learning declared free, it ceased to be the privileged service for only the upper class. The upshot of all these measures was a progressive expansion in education resulting in an unprecedented increase in the school-going population. All available evidence documents this enormous educational expansion in Sri Lanka over the past four decades.[1] This increase undoubtedly helped in bringing forth a transformation which led to social mobility in the country. The entire thinking after the forties began to be centred around a concept of providing equal opportunities in the field of education which gradually resulted in equalization of educational attainments.

Since gaining independence in 1948, all governments have laid much emphasis on education. This is evidenced by the progressive increase in the monetary commitments by successive governments during the last four decades. Government spending on education increased from 100 million Rupees in 1950 to 5108 million Rupees in 1986. Amongst the welfare measures provided by the state, the outlay on education is quite impressive for a developing nation like Sri Lanka. Currently about 7 to 8 percent of the total government expenditure is channelled to education. This heavy outlay on education is a clear indication that every attempt is being made by the state to provide for education, which in turn sets the pace for development and change. Change through education, especially when it is provided free, tends to permeate society at every possible level, creating a new

[1] Census of Ceylon, 1946, 1963, 1971, and Census of Sri Lanka, 1981.

outlook amongst the educated, resulting ultimately in having the desired bearing on fertility.

2.2 The Educational System

The educational system in Sri Lanka is divided into two major components. Firstly it is general education which is the responsibility of the Ministry o f Education and is imparted through the formal schooling system and is sub-divided into primary, junior secondary and senior secondary education. The second major component is that of higher education which is sub-divided into university education and technical education.

There has been much progress made in the general education sector recently. Table 2.1 shows the 1988-1992 trends pertaining to schools, pupils, admissions teachers and current expenditure on general education. It reveals that more than 97 per cent of the school-going population attend government schools with 96 per cent of teachers in the country serving in them. It speaks of the immense contribution made by free education to the process of learning in the country as by and large the entire student population seem to benefit by it. Budgetary provision for education continues to be high . According to the 1992 annual report of the Central Bank of Sri Lanka, the total government expenditure on education rose by 6 per cent to Rupees 9,664 million from Rupees 9,129 million in 1991. Accordingly, its share in the total government expenditure rose from 7.8 per cent in 1991 to 8.0 per cent in 1992. The report adds that an outlay of Rupees 2,007 million capital expenditure on education, recorded a 70 per cent increase. However, current expenditure decreased by 4 per cent to 7,657 million in 1992 and it included a sum of Rupees 2,239 million spent on the provision of free school texts, mid-day

meals and travel tickets for students. Apart from this, the Ministry of Education provides facilities to improve the skills of school leavers, adults and children who had never been to school. Under this non-formal education programme, 667 full-time and part-time technical units provided training for 23,750 school leavers, and 179 literacy classes were conducted for 6,500 non-school going children. English classes for adults were commenced in 159 schools, while community education programmes were organized by adult education officers in 106 electorates in the country.[2]

Table 2.1: Trends in General Education, 1988-1992, Sri Lanka.

Item	1988	1989	1990	1991	1992
Total No. of Schools	10,261	10,296	10,382	10,520	10,588
Govt. Schools	9,771	9,805	9,864	9,998	10,042
Other Schools	490	491	518	522	546
Total No. of Pupils	4,058,843	4,179,520	4,232,356	4,258,697	4,284,166
Govt. Schools	3,938,062	4,057,815	4,111,272	4,135,114	4,155,035
Other Schools	120,781	121,705	121,084	123,583	129,131
New Admissions	394,960	396,748	387,314	388,315	358,808
Total No. of Teachers	146,334	153,243	184,822	177,231	182,597
Govt. Teachers	140,061	146,997	178,333	170,735	175,682
Others	6,273	6,246	6,489	6,496	6,915
Pupil/Teacher ratio	27.74	27.27	22.89	24.03	23.46
Total Current Expenditure on Education (m.Rupees)	5,371	6,612	8,529	7,931	7,657

Source: Annual Report, 1992, Central Bank of Sri Lanka.

[2] Review of the economy (1986), Central Bank of Sri Lanka, Colombo.

Higher education in Sri Lanka is provided through 9 universities which have a regional spread in the country. There are in addition other post-graduate and technical institutes. With the view to drawing students from a wider range into the fold of university education, an open university with provision for distance education, and two private medical colleges have been established in the country. All these steps have contributed to the expansion of university education in Sri Lanka. With these improvements, undergraduate entrants into the universities increased from 5558 in 1987/88 to 7235 in 1990/91, accompanied by a dramatic rise in the number of female students enrolled in the universities and in other higher learning institutions (see chapter 4 for further discussion).

Technical education has recently been given a fillip in Sri Lanka. There has always been a shortage of technical skills in the country and it had been aggravated by the exodus of such available skills to the oil-rich Middle East at a time when there had been an increase in demand caused by the expanding construction industry at home. The upshot of these developments led to a major expansion in the enrolment in technical training institutions in the year 1978 and this level of training has been maintained by the 23 technical colleges and 4 affiliated technical education units in the country. Technical education in Sri Lanka basically provides a variety of full-time and part-time courses in the engineering, technical, commercial and agricultural fields leading to diploma programmes and other courses with short term duration aimed at equipping for self-employment.

2.3 Educational Expansion, Literacy and Fertility

Census data of Sri Lanka provide adequate information on the educational characteristics of the population in the past. The last census of population held in

1981 returned 87.2 percent of the population over 10 years of age as literate with a male literacy rate of 91.1 percent and a female literacy rate of 83.2 percent. The percentage of literacy by sex at the censuses from 1881 to 1981 is shown in Table 2.2.

Table 2.2: Literacy Rates by Sex, 1881 - 1981, Sri Lanka.

	Literacy Rate			
Census Year	Both Sexes	Male	Female	Difference Between male and Female Rates
1881	17.4	29.8	3.1	26.7
1891	21.7	36.1	5.3	30.8
1901	26.4	42.0	8.5	33.5
1911	31.0	47.2	12.5	34.7
1921	39.9	56.3	21.2	35.1
1946	57.8	70.1	43.8	26.3
1953	65.4	75.9	53.6	22.3
1963	77.1	85.8	67.5	18.3
1971	78.5	85.6	70.9	14.7
1981	87.2	91.1	83.2	7.9
1990	88.0	N.A.	83.0	-

Source: Census of Population and Housing, 1981, Sri Lanka, General Report; World Bank, World Development Report, 1993

It is indicative of a progressive rise in literacy rates in the country during the last century. Trends in female literacy are important in the context of fertility transition. It could be observed that from 1946 onwards, there was not only a

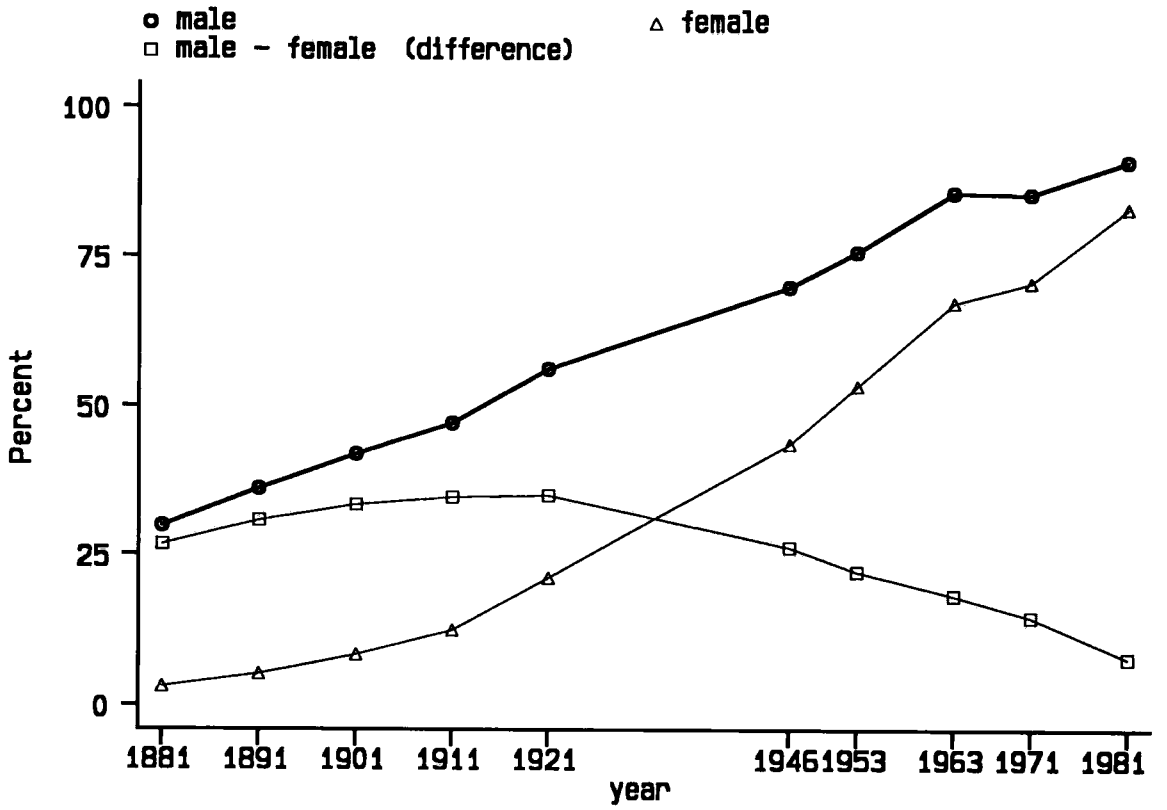


Figure 2.1 Converging literacy trends, Sri Lanka

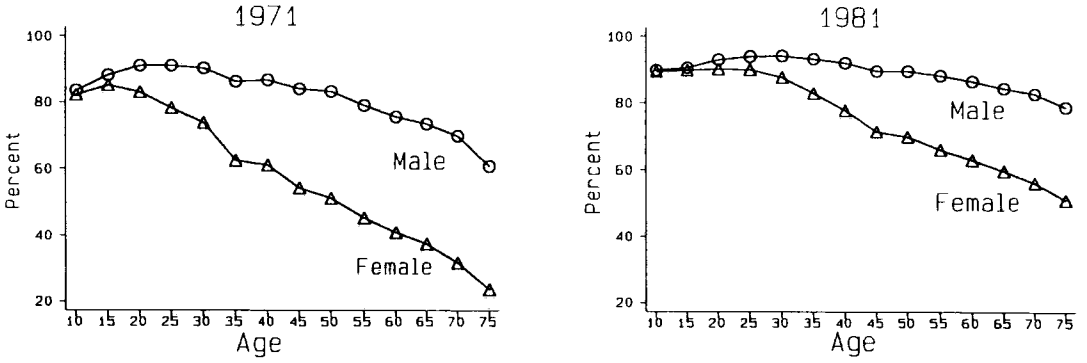


Figure 2.2 Narrowing Literacy Trends

continuous improvement in female literacy with almost a phenomenal doubling of the rates between 1946 and 1981, but also a converging trend in the literacy levels between the sexes. The difference between the male and female rates dropped from 26.3 in 1946 to 7.9 in 1981 reflecting a noteworthy progress. This needs to be accounted for in the light of the establishment of non-fee levying schools which provided opportunities for co-education throughout the country (Fig. 2.1).

Literacy rates by age and sex at the 1971 and 1981 censuses are shown in Table 1.3. The highest achievements are in the age groups 15 to 30 years, providing evidence of the beneficial effects that accrued by the free education scheme to the cohort of children who entered school after the mid-forties. Female literacy figures which lagged behind those of males show a narrowing trend between the sexes in all age groups in the 1971-81 intercensal period, with the higher age groups expressive of a wider gap than the younger groups, lending support to the fact that they belonged to the school-going age prior to the enforcement of the free education scheme, and hence tend to reflect the discrepancy in achievements between the sexes (Fig. 2.2).

Other studies carried out in developing nations have also established the correlation between rising female literacy and falling fertility. Sharma and Retherford (1990) in a study in India have demonstrated that improvements in female literacy had contributed to lower fertility. They examined data from 14 states wherein 326 districts were contained. The essence of their findings being that in districts where a high proportion of women could read and write, the average number of children per woman was considerably lower than in districts where the literacy levels were low. They have in addition identified other channels through which literacy indirectly helps to keep fertility down. Literate women are generally knowledgeable

Table 2.3: Literacy Rates by Age and Sex, 1971 and 1981, Sri Lanka,

Age Group	1971			1981		
	Both Sexes	Male	Female	Both Sexes	Male	Female
10-14	83.0	83.7	82.3	89.8	90.0	89.6
15-19	86.7	88.3	85.1	90.4	90.8	90.0
20-24	87.1	91.0	83.1	91.7	93.1	90.4
25-29	84.7	91.0	78.3	92.2	94.2	90.2
30-34	82.4	90.4	73.8	91.2	94.4	87.9
35-39	74.5	86.3	62.5	88.2	93.3	83.1
40-44	74.9	86.7	61.3	85.3	92.2	77.9
45-49	70.1	84.0	54.4	80.8	89.8	71.5
50-54	68.7	83.3	51.3	80.4	89.8	70.0
55-59	63.9	79.1	45.3	77.9	88.5	66.2
60-64	60.5	75.6	41.0	75.9	86.7	63.2
65-69	57.3	73.5	37.5	72.8	84.5	59.8
70-74	53.2	69.9	31.8	70.6	82.9	56.3
75+	42.9	60.8	23.8	65.6	78.8	51.1
All Ages	78.5	85.6	70.9	87.2	91.1	83.2

Source: Department of Census and Statistics, Census of Population 1971, Sri Lanka, General Report; Census of Population and Housing, 1981, Sri Lanka, All Island Tables, Vol: 2, Part I.

and have greater awareness on matters related to health and personal hygiene. Such traits acquired through literacy help to keep infant mortality at low levels resulting thereby in greater survivorship of their children. It means that with a relatively lower fertility performance they could achieve their desired family size.

This is amply demonstrated by Sharma and Retherford (1990) as Kerala state with a 55.0 per cent female literacy rate has a child mortality rate of 56 per thousand population and a total fertility rate of 3.4 births per woman, whereas the northern state of Rajasthan has a very low female literacy rate of 11.0 per cent accompanied by a very high child mortality rate of 145 per thousand population and a total fertility rate of 6.0 births per woman. Thus, literacy levels attained by a population are deemed to have desired bearing on fertility levels of the population. Moreover, the preliminary findings of the 1991 Indian census of population published in April, 1994 reinforce this fact as it again reveals literacy as a factor in keeping the family to a manageable size. India's literacy rate at the macro level at the 1991 census was 52.0 per cent with a growth rate of 2.2 per cent. However, the literacy rate in the Kerala state in South India is 90.0 per cent and the growth rate is only 1.2 per cent. These findings help further strengthen the hitherto established negative relationship prevalent between educational attainment *vis a vis* literacy and the birth rate.

Relationship between these variables shows similar trends in Sri Lanka where the 1981 census revealed an impressive literacy level of 83.2 per cent for females with an average annual growth rate of 1.67 per cent. Vital registration records for the same year revealed an infant mortality rate of 35 per thousand live births and a total fertility rate of 3.3 births per woman. Similar linkages between literacy and fertility prevailed at the district levels too. The Colombo district, where 92.3 per cent females were literate had a total fertility rate of 2.7 whereas Batticaloa in the Eastern Province with a female literacy of 61.9 per cent shows a much higher total fertility rate of 4.1 births per woman. However, the infant mortality rates both in the Colombo and Batticaloa districts are almost the same being in

the region of 37 deaths per thousand live births. This needs to be attributed to the fact that alongside the desired effects of the level of parental education which ensures better chance of child survival, the spread of Western medicine and the efficient health service providing medical care through a system of dispensaries and hospitals needs to be reckoned in accounting for such converging trends in infant mortality rates at the district level. However, the plantation district of Nuwara Eliya which shows a female literacy rate of 69.6 per cent had a total fertility rate of 2.2 births per woman but ironically had an infant mortality rate of 75 infant deaths per thousand live births. Such atypical demographic behaviour in this district expressive of aberrant relationship between female literacy, total fertility rate and infant mortality rate is an outcome of the fertility performance of the stateless Indian coolie population. This sector of the population in the country live under sub-human conditions being ill nourished and impoverished and their fertility performance kept at a minimum or low level, many of the women being sub-fecund due to their physiological inability to reproduce. Hence it is a combination of negative factors that had contributed to lowering the fertility performance of this segment of the population, evidenced also by their high infant mortality rate of 75 deaths per thousand live births. Factors that contribute to their departure from the general trends prevalent in the country are examined at a subsequent stage in the study.

With free education, not only did the literacy levels improve but also the educational attainment of the population in Sri Lanka. Table 2.4 shows educational attainments of males and females 10 years and above for the three census years 1963, 1971, 1981. Both males and females show progressive improvement in the educational levels attained, evidenced by a decline in the proportion in the cat-

Table 2.4: Population Aged 10 years and over by Percentage Level of Educational Attainment and by Sex, 1963, 1971 & 1981,Sri Lanka.

Educational Attainment	1963		1971		1981	
	Male	Female	Male	Female	Male	Female
No Schooling	13.4	29.2	16.0	29.5	8.7	17.5
Attended but not Completed	40.2	35.7	26.9	22.7	13.6	11.4
Completed Primary i.e. Grade: 5	35.9	26.5	50.7	42.4	68.2	62.3
Passed G.C.E. O Level in at least 6 Subjects	5.5	4.5	4.6	4.3	7.1	7.0
Passed G.C.E. A Level in at least 3 Subjects	0.9	0.7	1.2	0.9	1.4	1.4
Degree or Higher	0.4	0.1	0.6	0.1	0.9	0.5
Unclassified	3.7	3.3	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Census and Statistics, Census of Population and Housing, Sri Lanka, 1963, 1971 and 1981.

egories " no schooling " and those who failed to complete primary level. These trends persist as there has been a very marked rise in the proportion of those who completed the primary level in 1981 which indicates percentages as high as 68.2 for males and 62.3 for females, recording thereby 34.5 percent and 46.9 percent increases for males and females respectively over the 1971 figures, which were 41.2

percent and 60.0 percent higher than the 1963 figures. The gains, especially by the females, are striking as those who completed primary level in 1963 were only 26.5 percent. As for attainments at the G.C.E. ordinary level, the male-female percentages show a converging trend with 4.6 percent and 4.3 percent for males and females respectively in 1971, with the gap narrowing even further in 1981 to 7.1 and 7.0. Indeed, the G.C.E. ordinary level and advanced level attainments for males and females were virtually at par by 1981. They furnish convincing evidence of the effects of the educational expansion, providing equal opportunity for the sexes. These changes formed the grounding that contributed a great deal towards the demographic transition under consideration.

Table 2.5 shows for the population 15 years and over the percentage of males and females and the total in each group who have attained specific educational levels as at the 1971 census. It reveals that the younger age groups had greater proportions in the higher educational levels. This is to be attributed to the improved school attendance caused by a general improvement of the educational facilities provided over the years. These cohorts of the population at school when carried through into the future years would show higher educational attainments of older age groups in the coming years. Thus an overall trend in higher educational achievements at all levels was to be foreseen. Moreover, in each age group, the males have had a higher educational attainment than the females but the differential declined with the level of education; e.g. in the 20-24 age group, 2.3 percent males as against 2.2 percent females possess G.C.E. advanced level or higher qualifications, providing evidence again of an equalization of sexes in terms of educational attainment which is pronounced at higher educational levels.

The picture observed in respect of 1971 becomes even more pronounced in

Table 2.5: Percentage Distribution of Population 15 years and over by Level of Education, Age and Sex for Sri Lanka, 1971

Educational Attainment	Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50 -54	55-59	60-64	65-69	70-74	75 & Over	Total
	T	13.9	15.0	18.0	20.3	28.1	27.6	32.3	34 .6	39.6	42.9	45.3	50.7	60.3	25.9
No Schooling*	M	12.2	11.5	12.5	13.8	17.8	17.0	20.2	21 .0	25.7	28.5	30.9	35.4	43.8	20.3
	F	15.6	18.3	23.4	27.1	38.6	39.6	47.0	50 .0	56.0	61.1	62.8	70.3	77.6	31.8
Passed Grades	T	19.4	19.0	21.5	22.4	25.5	27.2	26.1	24.1	23.4	22.7	24.2	23.0	19.8	30.3
One to Four	M	20.0	19.0	21.2	22.8	27.4	30.2	30.1	28.4	28.2	28.0	30.1	30.5	23.3	32.2
	F	18.6	18.2	21.8	22.0	23.6	23.8	21.7	39 .6	17.8	15.9	17.0	13.4	10.9	28.4
Passed Grades	T	53.1	41.5	37.9	39.4	34.8	36.3	34.8	35.7	32.3	30.5	27.4	24.1	17.6	34.1
Five to Nine	M	55.3	45.4	42.7	44.3	41.4	42.1	41.9	43.5	40.2	38.3	34.9	31.1	24.5	37.5
	F	50.1	37.7	33.3	34.2	28.2	29.7	27.0	26 .7	22.9	20.6	18.4	15.1	10.4	30.5
G.C.E. (O.L)	T	9.6	13.8	10.4	6.9	4.2	2.6	1.7	1.4	1.0	0.8	0.6	0.5	0.5	4.7
Less than Six	M	8.7	13.3	10.8	7.2	4.7	3.2	2.2	1.7	1.3	1.1	0.8	0.6	0.7	4.6
Subjects $\leq$	F	10.5	14.2	10.1	6.6	3.6	1.9	1.2	1. 0	0.7	0.4	0.4	0.3	0.3	48
G.C.E. (O.L)	T	3.7	8.6	8.6	7.8	4.7	3.6	2.2	2.0	1.5	1.5	0.8	0.7	0.6	3.5
More than Six	M	3.4	8.5	8.7	8.0	5.6	4.4	2.8	2.7	2.0	1.6	1.2	0.9	1.0	3.6
Subjects $\geq$	F	3.9	8.7	8.4	7.5	3.9	2.6	1.4	1. 3	0.8	0.6	0.4	0.3	0.3	3.3
	T	0.4	2.2	3.6	3.3	2.7	2.8	2.2	2.2	2.3	2.0	1.6	1.1	1.2	1.5
Higher	M	0.4	2.3	4.1	3.9	3.2	3.1	2.9	2.8	2.7	2.5	2.1	1.5	1.7	1.8
Qualifications	F	0.4	2.2	3.0	2.7	2.1	2.5	1.7	1.5	1.7	1.4	0.9	0.6	0.6	1.2

Source: United Nations, ESCAP, Population of Sri Lanka, 1976, p. 227.

* It has been assumed that a person for whom an educational attainment had not been reported would almost certainly be one who has had no schooling.

1981. All categories show higher proportions in respect of each quinquennial age group (Table 2.6). However, the decline in proportions of the "no-schooling " and the category "passed grades 1,2,3 and 4 " from 1971 to 1981 may be related to one or more of the following factors:

1. Emigration of manpower to the oil-rich developing countries which began with

Table 2.6: Percentage Distribution of Population 15 years and over by Level of Education, Age and Sex ; Sri Lanka, 1981

Level of Education	Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65 & Over	Total (15-65)
	T	7.8	7.3	7.2	8.3	11.5	14.6	20.0	20.2	24.2	32.4	12.9
No Schooling	M	7.1	6.0	5.4	5.6	6.6	8.0	10.9	10.6	13.5	19.4	8.4
	F	8.5	8.5	8.9	11.1	16.5	21.7	29.4	30.7	36.4	46.8	17.4
Passed Grades	T	10.3	10.0	9.9	9.9	11.5	12.2	14.1	14.9	14.4	14.3	11.5
1,2,3 & 4	M	11.0	10.9	10.5	10.1	12.1	13.2	15.9	16.9	16.7	16.9	2.6
	F	9.6	9.1	9.2	9.7	10.9	11.1	12.1	12.5	11.7	11.4	10.3
Passed Grades	T	60.3	53.0	54.1	53.2	52.5	53.6	51.3	53.2	52.0	45.9	53.7
5,6.7,8 & 9	M	62.3	54.8	55.6	55.2	55.2	57.6	56.6	59.3	59.5	55.9	57.3
	F	58.3	51.2	52.5	51.1	49.7	49.3	45.8	46.5	43.6	34.9	50.1
GCE(O.L) Less	T	12.4	15.4	14.8	13.9	10.2	6.5	3.9	2.5	1.6	0.8	10.0
than 6 Subjects	M	11.5	15.1	14.7	14.1	11.1	7.1	4.7	3.0	1.9	0.9	9.9
or Equivalent	F	13.4	15.8	14.9	13.7	9.3	5.8	3.2	1.9	1.2	0.6	10.1
GCE(O.L) More	T	5.5	7.1	7.4	8.6	8.4	8.3	6.2	4.8	3.4	1.9	6.4
than 6 Subjects	M	4.8	6.4	7.1	8.6	8.6	9.0	7.4	6.0	4.3	2.6	6.5
or Equivalent	F	6.2	7.8	7.6	8.6	8.1	7.5	4.9	3.6	2.5	1.3	6.4
	T	3.0	6.7	6.1	5.5	4.9	3.7	2.9	2.8	2.4	1.9	4.4
Higher	M	2.5	6.3	6.3	5.9	5.8	4.5	3.6	3.4	2.9	2.5	4.6
Qualifications	F	3.4	7.0	5.9	4.9	4.1	2.8	2.2	2.3	1.8	1.2	4.1

Source : Computed from the Census of Population and Housing, Sri Lanka, 1981, All Island Tables Nos. 13 and 14.

N.B. The total does not add up to 100 per cent as the unspecified component has been excluded

the professionals in the early seventies but increased significantly by the mid seventies encompassing both the skilled and unskilled labour in response to the demand created by the extensive infra-structural programmes that were begun there.

2. Repatriation of Indian labour in response to the signing of the Sirima-Shashtri

pact which began in the mid sixties and gathered momentum from the early seventies.

3. Probable impact of adult education and the vocational training programmes carried out by the various governmental and non-governmental organizations in the country during the seventies.

2.4 Thoughts on Education and Fertility

With such an increase in opportunity for female education and the resultant educational attainments, women got out of the seclusion of their homes and took to employment. McNamara (1980: 25), states that " of all the aspects of social development, the educational level appears most consistently associated with lower fertility. And it is significant that an increase in the education of women tends to lower fertility to a greater extent than a similar increase in the education of men."

Caldwell (1976 and 1978) regards that in the traditional patriarchal family, there is undoubtedly a net wealth flow from wife to husband which is reduced if an educated wife demands more equitable treatment or is awarded it because of the way the society views the educated. Even more important, education often leads to strengthened bond between wife and husband, which renders the traditional family structure and its morality exceedingly difficult to maintain. Finally, educated wives, even when the child-parent wealth flow is still upward, may dislike repeated pregnancies and periods with infants and may attempt to prolong the interval between births, with a consequent impact on fertility . Caldwell (1980) further argues that in accounting for the dramatic fertility transition in Sri Lanka, increasing recognition should be paid to education as being of fundamental significance. Accordingly, there are basic changes that come to play once parents who

are hitherto accustomed in a predominantly rural setting to children performing traditional chores, get them into a process of regular schooling. Once the child gets into the stride of schooling, the parent's aspirations undergo basic changes and their attention gets focussed on seeing that the child shines in school so as to build up a career with the accompanying status. This has other implications, as bringing them up with decent schooling increases the cost of children as it means that parents have to meet the many and varied requirements demanded by the child in school, despite teaching being imparted free. They acquire new standards in their life style, as they are conscious of their career in the making. To quote Caldwell (1980:227) " their authority, is the new authority of the school, and their guides are the non-traditional ways of life that have been revealed." All in all, the parents would regard their children at school as those with superior needs and would not like to bargain in their dealings with them.

The crucial change that takes effect is that through education, the child transforms from being a producer in the traditional setting to that of a dependent in the new set up. He has transformed in becoming a future producer and currently continues to be dependent. Thus in the new situation, children turn out to be less productive and become costly both to the family and to the society at large. Van de Walle (1980) appears to conform to this line of thinking, referring to the situation in Switzerland, where, when schooling became mandatory, it changed the economic value of children considerably as they were hitherto made to work in the fields or as spinners and weavers whereby they contributed to family production. Heer (1972:111) comments on the rising cost of children's longer stay in school and costs to parents and continued dependency as contributors to fertility declines. His argument basically centres around higher costs of children's schooling as the

direct factor. Accompanying the above are other changes in values and aspirations. In a developing context as in Sri Lanka, the school acts as the dominant medium spelling out the values which are western in outlook, thus tending to sway away from traditional beliefs that become regarded as a behavioural pattern of those who have not been influenced by schooling. Easterlin (1974:269) found education to be " one of the most pervasive factors influencing completed family size " and indicates that compulsory education may increase the cost of children by reducing their possible contribution to family income. Fawcett (1973:125) contends that "the effect of education on fertility is of course not direct, children are not taught in school to have smaller families, but rather the attitudes, values and behaviours learned in school interact with subsequent life experiences to produce an overall trend toward lower fertility."

The pre-transformation period was one where the societal household comforts depended basically on labour inputs by the family. Hence a high fertility situation was advantageous as long as the cost of bringing them up was not high and their usefulness to the household continued to be of value, as the wealth flow is directed from the children to the parents. Caldwell (1980:235) makes apt reference to these times as one " where the citizens horizons had been largely confined to the family as it put the family interest first ". The emergence of education was a force which helped to destroy the family system that had hitherto considered high fertility as advantageous. In this regard, since the educated are paid far more and have far greater access to power than the uneducated, the temptation for parents to educate their children so as to enable them to gain access to the wealth of the modern sector is certainly impelling.

Studies on the many variables in demography and other fields in the social

sciences require data on educational attainment of the population. Human behavioural patterns might be best explained in the light of educational attainments. A higher level of educational attainment is a force that may bring about change in the hitherto existing pattern of fertility, which is best tested by comparing the behaviour and the nature of the different groups in the population with varying levels of educational attainments.

Education has a multi-pronged effect on human behaviour:

1. It influences the level of living as higher educational attainments tend to provide in the first instance greater prospects of employment and gradual access to better employment in the modern sector with greater economic gains. Consequently, it influences the life style of the individual and the norms of fertility behaviour.

2. Education provides individuals with the necessary knowledge needed to regulate fertility.

3. Education has an implicit bearing on fertility through:

   (a.) A higher degree of female participation in the labour force.

   (b.) A higher age at marriage.

   (c.) A greater receptivity to family planning programmes.

2.5 Is the Association of Education & Fertility Consistent

An inverse relationship of education to completed family size has been well established in many studies. Knodel (1974:231) states " in general we expect increases in education or literacy to have a depressing effect on fertility at least

during the initial phases of the fertility transition. Education should foster the flow of communications of all types and thus facilitate the diffusion of new information and attitudes towards birth control and family size. Also increased education should contribute to the spread of rationality and secularism which may be crucial to the acceptance of family limitation ".

Francine Van de Walle's (1980:463) Swiss analysis falls in line as she finds a definite negative association between education and marital fertility and a decrease in fertility which she refers as concomitant to a rise in educational level. She also found this relationship to persist and contends that " of all the social and economic variables that demographic transition theorists have advanced as factors influencing fertility behaviour, education is perhaps the most widely accepted and frequently studied. The negative relationship between education and fertility implies that a high level of education is associated with both a low level of fertility and early fertility decline ". Caldwell (1980:248) argues that " the change resulting from education in terms of the increased cost of a child and decreased lifetime return is sufficient to cause falling fertility from the onset of mass education." The hypothesized relationship has been established in many empirical studies in contemporary developed and developing countries. Macro-level studies by Westoff and Ryder (1977) and Freedman (1973) have found education or literacy as the strongest inverse correlate of the crude birth rate. Moreover, micro-level analysis by Michael (1973) locates maternal education as a precursor of reduced family size.

Nevertheless, this relationship is by no means consistent. In the mid - nineteenth century examples from European countries like Sweden, Germany, France and Hungary show that the fertility decline preceded the onset of literacy. France especially shows no association between literacy and marital fertility. Livi-Bacci

(1971) illustrated that in Portugal both in the thirties and in the sixties, there has been a strong correlation between illiteracy and lower fertility. His findings, being contrary to the hitherto accepted hypothesis related to the two variables, needs to await further analysis pertaining to any other relevant variables controlling this relationship.

Van de Walle (1980), in her notes and commentary of studies, cites Belgium as an example of a strong positive association between the level of literacy and marital fertility. This is best explained by the fact that during the nineteenth century, the Catholic Church exercised a virtual monopoly in primary education and encouraged the formation of large families. Hence the degree of literacy in that context was an index of the fertility levels. But she reports the prevalence of the much hypothesized negative relationship in both Italy and Spain.

Graff (1979) and Cochrane (1979) have both shown an increase in fertility with higher levels of education, such increases being interpreted as being closely associated with better health resulting in greater chance of conception. This interpretation was deemed valid earlier in Sri Lanka when the converse did occur. In 1946, the census report documented that the fertility of the Ceylonese women was declining and that it was moving towards the familiar pattern of the small families of Western countries. Sarkar (1957) attributed it to epidemics like that of malaria which was then rampant in the island. According to him, epidemics and health conditions had then played a significant role in determining fertility trends. Sarkar's (1957:106) suspicions were that " a substantial proportion of the population live at a marginal level of nutrition and health. The hormone output and general vitality of these persons are such that they exist on the margin between sterility and fecundity as much as on the margin of life and death and a

slight change in health conditions or in the economic situation may suffice to tip the balance resulting in the booms and depressions in fertility."

Hence inconsistencies arising in studies relating education to fertility need careful analysis and interpretation of data. In an attempt to arrive at conclusions, data relevant to the study need to be analysed by controlling for cultural and religious factors. Relationships that have been recorded and which sway away from the much hypothesized negative association that fertility maintains with education may be attributed to include the following two factors.

1. The religious factor, whereby those societies comprised predominantly of, for example, Muslims tend not be encouraged by contraception despite their educational attainments. In addition, the Muslims tend to have large families which have a positive association with the wealth they hold. This is especially true in the north Nigerian context where the extended family system prevails amongst the Muslim communities.

2. Inadequacy of data pertaining to educational levels attained by the population and children ever born could result in clouding the underlying relationship *per se*.

In an attempt to establish the relationship that education has on fertility in Sri Lanka, it is relevant to examine whether the family size is in anyway related to the educational attainments of both the husband and wife. Hence it is worth pursuing to test the hypothesis that more years of schooling completed by the husband or wife leads to fewer children ever born to couples. Unlike at the 1981 census of population, at the 1971 census exercise in Sri Lanka, information on total live births was collected from ever married women under 50 years of age in the

sample census blocks and the data were classified according to age at the same five levels of educational attainment.

Table 2.7 derived from the 1971 census of population lends support to the above hypothesis. Computations in the table are based on data of ever married women 15-49 by age, number of children born alive and by educational attainments. The table reveals that for all 5 year groups of the reproductive span, a steady decline in live births with the attainment of each successive higher level of education, thereby establishing an inverse relationship between educational level of women and the number of children ever born. Women in the age group 25-29 with no schooling have had on an average 4.3 children whereas those women with G.C.E. ordinary level achievements have 1.9 children which is expressive of a 55.8 per cent decline over the women with no schooling. Women with G.C.E.advanced level and higher attainments had only 1.3 children, recording a 31.6 per cent decline over those with G.C.E. ordinary level qualifications. Similarly, in the age group 35-39, those women who have had no schooling have had 6.1 children and women with G.C.E.advanced level and higher attainments only 2.9 children. A 40.1 per cent decline is observed in the G.C.E. ordinary level over the 1 to 4 grade in the same age group. Generally, women with educational attainments up to grade 4 have had on an average more than 6 children and those women in the same age group who hold attainments up to the G.C.E. ordinary level and above had on an average only 3 to 4 children, recording thereby declines of 37.7 per cent and 27.8 per cent for the 40-44 and 45-49 age groups respectively over the women who had schooling up to grade 4 of the same age groups. Thus the negative association is most striking after the G.C.E. ordinary level and does also hold good for all ages combined. The most conspicuous aspect of the findings is that the inverse relationship is maintained

and is consistent in all age groups, as one sees a gradual decline in the children ever born with a progressive rise in their educational attainments. Free education from the kindergarten to the university level was brought into force in October, 1945, hence females below age 30 at the 1971 census would reflect its beneficial effects. This is evidenced by the performance of the female cohort aged 25-29 years which records the strongest impact of the scheme.

Table 2.7: Average Number of Children ever born by Age and by Educational Attainment of Mother, Sri Lanka, 1971.

Age of Mother	Educational Level					
	No Schooling	Grade 1-4	Grade 5-9	G.C.E. O.L.	G.C.E 'A' & Above	All Attainments
15-19	1.1	1.1	1.0	0.7	N.A.	1.1
20-24	2.2	2.0	1.7	1.3	1.1	1.9
25-29	4.3	3.3	3.6	1.9	1.3	3.0
30-34	5.1	4.6	3.9	2.7	2.2	4.2
35-39	6.1	5.7	4.8	3.4	2.9	5.4
40-44	6.6	6.1	5.4	3.8	3.5	5.8
45-49	6.3	6.1	5.5	4.4	3.8	6.0
15-49	5.2	4.5	3.7	2.6	2.7	4.3

Source: Derived from Table 22, Sri Lanka Census of Population, 1971, Preliminary Report, 1974, pp. 98-101, Dept. of Census and Statistics, Colombo

A similar examination of trends as at 1981 was not possible due to the non-availability of data on the same lines at the 1981 census of population. This was due to questions on the number of children ever born and the number of children

living not being asked at the 1981 census rounds. One of the reasons that was put forth for this omission was that the Sri Lanka World Fertility Survey was carried out in 1975 and that data on fertility were being actively analysed and hence did not warrant such an enquiry at the 1981 census rounds. This nevertheless does not justify its exclusion especially on reckoning its value for a developing nation like Sri Lanka and also the lag of nearly six years between the World Fertility Survey and the 1981 census, a period of time that is long enough for behavioural patterns to change. However, to circumvent these constraints, indirect methods may be applied to elicit fertility trends and differentials that prevailed at the time of the 1981 census. A technique termed the own children method of estimating fertility may be used in such situations.

The own children method of approach to estimate fertility was elaborated by Grabill and Cho (1965), Cho *et al.*, (1968), Cho (1971, 1973) and by Retherford and Cho (1978). It is basically a census or survey based reverse survival technique that may be utilized for estimating age specific fertility for a period prior to a census or survey enumeration exercise. The method involves the matching of enumerated children to mothers within the household on the basis of answers to questions on age, sex, marital status, relationship to head of household and the number of children surviving or ever born. The children so matched, classified by own age and mothers age are reverse survived, meaning thereby that the technique enables fertility estimates to be made by age of mother for years previous to the year of enumeration. This method may also be applied to estimate the number of women by age in previous years. After the necessary adjustments are made for any incorrect estimation and unmatched children (those children regarded as not own), age specific birth rates are calculated by dividing the number of births

by the number of women. These estimates may be computed for each of the 10 to 15 years or groups of years preceding the census or survey rounds. Estimates are not computed beyond 15 years backwards, as any attempt to do so would tend to be ineffective as births must then be based on children aged 15 and above at enumeration, an age at which the probability of children living in the same household as their mother is very low and hence would encounter difficulties in effecting the matching process embodied in the technique.

This method is regarded as satisfactory as the findings obtained by the application of it match well with those obtained through the use of vital registration and survey data like the World Fertility Survey of 1975 and those of earlier censuses. Therefore imputing this method to observe the continuing trends in fertility could be deemed reliable. Above all, the implicit advantage of the method is that it has the capacity to provide an excellent base for the study of differential fertility by utilizing census or survey data. It provides the benefit to tabulate birth rates by characteristics of the mother such as education and occupation, information which is normally collected in a census or survey, thereby enabling the researcher to study the determinants involved in fertility trends.

Retherford who had been earlier identified with Cho in elaborating the own children method, had collaborated with Ratnayake *et al.* (1984) in Sri Lanka to apply it to elicit information on fertility differentials from the 1981 census data. Having chosen a ten per cent sample from the 1981 census returns, they prepared estimates of age specific fertility rates, total fertility rates, age specific marital fertility rates and age specific total marital fertility rates for the island and for the different social and geographical sub groups of the population. Table: 2.8 reveals trends in fertility *vis a vis* educational attainments of mothers within the age

range 15-49 years who have had schooling ranging from 0-5, 6-10, and 11+ years for the period 1966-70, 1971-75, and 1976-80. The findings reveal that the 1971 trend seems to have continued to persist as it is seen that the total fertility rate of women who have had 6-10 years of schooling shows of about a child less than those mothers who have had lesser schooling of 0-5 years. Similarly, those mothers who were 11 years and above in school show a total fertility rate of a child less than those who had attended school for only 6-10 years. Looking at age specific fertility rates in respect of completed years of schooling of mothers, it may be observed that amongst the 15-19, 20-24, and 25-29 age groups the inverse relationship between fertility and educational attainment is very conspicuous. Table 2.8 not only reveals striking negative bearing between schooling of mothers and their fertility performance, but also a declining trend in fertility over the years between 1966 and 1980. Thus superimposed on the overall declines in fertility over the years is the consistent negative association between educational attainment and fertility performance of mothers. Amongst the 20-24 age group, the age specific fertility rate was 251 per thousand women during the 1966-70 period for those mothers who have had 0-5 years of schooling, and it declined to 158 per thousand women with 6-10 years of schooling and to a mere 44 births per thousand women who had gone through schooling for 11 years and above. Hence the overall trend revealed in Table 2.8 provides convincing evidence of the significance of education as a determinant in contributing to the fertility transition process in Sri Lanka.

Observing these rather persistent declining trends, it is germane to refer to the fact that as a social measure the government had been consistent in its policy of providing the educational services free without withdrawing any segment of what was in force and on the contrary had enhanced the service by adding further

Table 2.8: Total Fertility Rates and Age-Specific Birth Rates by Completed Years of Schooling of Mothers, Sri Lanka, 1966-80.

Educational Attainment	Period	TFR	15-19	20-24	25-29	30-34	35-39	40-44	45-49
0-5	1966-70	5328	113	251	266	217	139	61	18
	1971-75	4487	92	219	231	183	112	46	14
	1976-80	4215	70	220	223	166	99	42	14
6-10	1966-70	4269	44	158	234	213	136	54	14
	1971-75	3538	38	142	194	173	107	41	11
	1976-80	3146	35	138	177	145	88	35	11
11+	1966-70	3097	10	44	135	211	156	50	13
	1971-75	2556	4	35	122	169	125	47	9
	1976-80	2038	4	28	105	141	93	32	3

Source: Ratnayake*et al*," Fertility Estimates for Sri Lanka,"
Colombo: Aitken Spence, 1984, p. 58.

welfare components to it like the provision of free textbooks and mid-day meals to all students in primary and secondary education commencing in the late seventies. Having implemented this scheme, the government regarded as having seen the free education scheme to a stage of completion.

The findings of the World Fertility Survey of 1975 lend support to this. The survey was based on a nationally representative probability sample. From a sample of 750 census blocks drawn from pre-determined zones, a sample of 8834 housing units was drawn from a list of all housing units in the selected blocks. Within each of these selected housing units all households were included into the sample and all ever-married women aged 15 to 49 were interviewed in detail. Findings are

based on a total of 6812 individual interviews which were completed representing an overall response rate of 89.0 per cent.

The survey revealed that for all ever-married women the average number of children ever born was four (3.94). One woman in six had a family below replacement level i.e. 0, 1 or 2 births. Completed parity was found to vary considerably with education; the more educated a woman, the lower was her parity. This was accounted for by the relationship that education had with age at marriage, an association that will be dealt later in this study. Table 2.9 gives the mean parity of successive five year age groups of all women, regardless of marital status and all ever-married women in 1971 and 1975.

Table 2.9: Mean Number of Children Ever Born (current parity) by Age at the Census 1971 and the World Fertility Survey, 1975.

	All Women		Ever- Married Women	
Age	Census 1971	WFS 1975	Census 1971	WFS 1975
20-24	0.70	0.59	1.49	1.57
25-29	2.05	1.74	2.72	2.59
30-34	3.51	3.23	3.95	3.86
35-39	4.84	4.45	5.14	4.89
40-44	5.26	5.14	5.52	5.54
45-49	5.37	5.59	5.61	5.94
All	2.40	2.25	3.85	3.94

Source: The Sri Lanka Fertility Survey, Summary Findings, 1976.

Findings of a micro survey carried out in the multi-ethnic district of Puttalam

in Sri Lanka in 1980-81 by the writer serving as a principal investigator attached to the Demographic Training and Research Unit of the University of Colombo, with the view to eliciting the levels and differentials in fertility, again lends support to the negative association, as it does not depart markedly from the earlier findings arrived at using census and World Fertility Survey data. The sample studied in the Puttalam survey had two broad age bands: women under age 30 and those over age 30. Educational attainment was considered a convenient indicator of socio-economic status. Simple weighted means of codes were used to designate educational grades reached in school or university. They ranged from 0 (meaning no schooling) to 9 (for higher secondary and university). The highest level recorded according to this index in villages was 6.5 for women in the younger age band (below 30 years) while the lowest recorded index was 2.1. The higher index showed 1.68 pregnancies per women since marriage and those with the lower index of educational attainment showed 2.1 pregnancies since marriage.

The study also reflected the recent educational expansion in the country, as a comparison of the educational indices for the two broad age bands revealed that the overall index was 3.74 for women over 30 years and 4.68 for those in the younger age band, attesting thereby to a rise of 25 per cent in the average level of education in the entire sample for the younger cohort, who had benefited by the educational programmes which took a larger number into the fold during the past decades.

In this regard, it is germane to refer to the perception held by women interviewed at the Sri Lanka Demographic Health Survey, 1987, by educational attainments. Table 2.10 refers to mean ideal number of children for ever married women by current age and by educational level. There is a striking inverse relationship between educational levels and the number of children desired. The relationship

Table 2.10: Mean Ideal Number of Children for Ever-Married Women by Current Age and Educational Attainment, SLDHS, 1987.

Educational Attainment	Current Age								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	All Ages	Total
No Education	2.9	2.7	3.0	3.5	3.7	3.9	4.5	3.5	3.5
Primary	2.6	2.6	2.9	3.3	3.4	3.8	4.1	3.3	3.3
Secondary	2.4	2.6	2.7	3.0	3.0	3.2	3.3	2.9	2.9
Above Sec.	2.1	2.4	2.5	2.7	2.7	3.1	3.1	2.7	2.7
Total	2.5	2.6	2.7	3.0	3.1	3.5	3.8	3.1	3.1

Source: Sri Lanka Demographic & Health Survey, 1987,Colombo: 1988, p.89.

is all the more conspicuous on observing the consistent pattern of decline as the educational levels of women increases from a no education status to that of more than secondary level. However the mean indicates the desire at the national level which had stabilised at 3.1 children.

Hence women's educational attainments may be deemed to form a basis for fertility declines in Sri Lanka. Education determines the values and life styles. Women with few years of attendance at school are inclined to have larger families, as with meagre schooling they probably find an adequate expression of their interests in life only within the family. If on the other hand, a higher educational level is attained, they tend to act differently as it leads to a change in aspirations whereby they derive satisfaction only through a larger degree of participation in community life which reduces the number of children desired. Therefore, with education and the resultant attainments therefrom, non-family interests tend to

dominate in their minds.

The overall trend in Sri Lanka is towards a larger proportion of the population attaining higher levels in education. While it is difficult to gather data on the factors underlying this surge, free education has had the greatest impact in effecting the transformation. It received added momentum in the late fifties with the switch over to learning in the national languages, Sinhalese and Tamil. The increase in educational attendance from 1971 to 1981 for those aged 5 to 20 by sex is shown in Table 2.11, which indicates the educational expansion in the country. The phenomenal increase observed in respect of age 5 at the 1981 census is however an outcome of the restructuring of the educational policy whereby the age of entry to school was lowered from 6 to 5 years. Generally the increase in proportions attending school during the 1971-81 period is an indication of the high degree of awareness prevalent amongst parents to provide the maximum available educational opportunities to their children. The table also reveals that both in 1971 and in 1981, a decline in school attendance that begins at age 11, becomes more pronounced after age 14. This trend is accountable by the fact that the students at school begin to face the G.C.E. ordinary level examination which is the first public examination in their school career, and it is only those surviving this hurdle who proceed further; others leave school, recording a heavy drop in proportions attending school after age 14.

Above all, the most noteworthy aspect is that the 1981 attendance rates displayed a rather consistently converging trend between the males and females up to age 15, showing an improvement in attendance of the females over the males. This exhibits firstly a positive trend amongst the females to gain access to the educational process *per se*, and secondly that they had in addition surpassed the

Table 2.11: Percentage of Persons Aged 5 to 20 Years and Attending School by Age and Sex, 1971 and 1981.

Age	1971			1981		
	Male	Female	Difference	Male	Female	Difference
5	15.7	15.4	0.3	61.4	61.4	0.0
6	60.8	59.4	1.4	87.9	87.5	0.4
7	74.1	72.5	1.6	92.0	91.4	0.6
8	77.8	75.8	2.0	92.6	91.9	0.7
9	80.3	77.8	3.5	92.8	92.0	0.8
10	79.8	76.4	3.4	91.0	89.8	1.2
11	79.6	75.2	4.5	89.7	88.5	1.2
12	71.6	66.8	4.8	82.8	82.2	0.6
13	67.8	61.9	5.9	78.9	78.2	0.7
14	60.2	54.2	6.0	71.0	70.6	0.4
15	53.4	48.5	4.9	62.1	63.3	-1.2
16	45.7	40.8	4.9	50.9	52.7	-1.8
17	37.1	33.3	4.8	39.2	41.7	-2.5
18	25.9	22.5	3.4	27.1	29.8	-2.7
19	20.2	17.3	3.9	20.7	22.3	-1.6
20	13.8	11.4	2.4	11.8	12.1	-0.3

Source: Census of Population, Sri Lanka, 1971 General Report

Census of Population, Sri Lanka, 1981 General Report

males in this direction.

McNamara (1977) views school attendance as leading parents towards a more compact family. While children are in school they do not contribute to support

the family and hence have less immediate economic utility but more long-term earning capacity. Fertility rates are higher in those countries in which children under 15 are economically active rather than in school. Arising from the above, one could conveniently establish a correlation between the school-going population and fertility. The larger the proportion below age 15 in school, the lower the fertility levels. Going by the school attendance for those in the age range 5 to 20 for 1971 and 1981 presented in table 2.11, it could be postulated as helping if not determining the fertility transition process in Sri Lanka.

Parents with an education themselves desire an even better education for their children. They are aware that a large family is more expensive to educate and that a small and well educated family will be in a better position to help them in their later life. In order to achieve these goals they not only realize that the family size needs to be limited but also give up traditional beliefs and customs like the preference for sons which detract from achieving it.

2.6 Son Preference and its Significance in Fertility Trends

In this regard it would be pertinent to delve into factors related if not identified with the preference that South Asian societies hold in respect of having a male child and the effects of female education and the changing roles of women. With the transformation that free education brought to bear on the Sri Lankan society, women began to hold equal economic value as men. The picture changed with education and employment opportunities being thrown open to all without any gender differentiation, weakening thereby the value that son preference held on that score. However, the cultural conduct, firmly entrenched in society, such as those associated with the right parents held to live with their sons in old age, and

others as carrying the family name and those related to performing the last rites on their death, would yet tend to retain some degree of desire to yearn for a male child. Drawing on the writer's experience of the cultural milieu surrounding our society, mothers derive pride having borne a son. Such feminine traits, though hard to unravel through studies, remain shrouded in their minds. Nevertheless, it is apt to gain insight into some thoughts on the subject of son preference.

Studies made on son's preference amongst various societies demonstrate that the fertility levels would be higher resulting in larger family sizes. Sheps (1963) had demonstrated that when couples desired to have two sons, the mean size of family would be 3.21, and that the family size would average to 2.75 if they desired a balanced sex ratio of a son and a daughter. If the intention was to have three sons, the average size of the family would rise to 3.88. Estimates made by May and Heer (1968) indicate that for an Indian couple to have 95 per cent probability of raising one son to adulthood, they need to have on an average 6.3 children. This derivation was however based on a simulation exercise designed to find whether son survivorship motivation required large families in India. It was an exercise on a computer simulation model to study the effects of mortality upon desired family size. Given the poor survivorship rate with an average expectation of life at birth of approximately 37.7 it is not surprising that they came up with a high average of 6.3 children to raise one son to adulthood. Coombs (1979:449), looking at the situation in Taiwan, where much weight is added to sex preference, regards the continuation of child bearing as a function of current sex composition of the family and that " women who have borne more girls than boys are more likely to have another child during the subsequent period." The likelihood was twice as much at the same parity.

Therefore, these studies suggest that in a society with a strong preference for sons, couples with more daughters would continue child bearing longer than those with more sons. However, Repetto (1972) gives an entirely different interpretation in respect of sex preference. According to him, the economic benefits that accrue through a male birth outweigh the others and that the resultant effect amongst those couples who already have a high proportion of sons is to continue bearing children and end up having large families. This is due to the economic value added to sons, and hence parents would feel a lesser need to restrict child bearing than those having more daughters who he considers would be under economic stress. This line of thinking would mean that it is only those families with more daughters who would move towards restricting fertility before they reach a high parity status. Rapetto's inference on such fertility behavioural pattern could have been arrived at on examining birth order data of India by sex of children for couples of completed fertility, according to which, couples with sons to begin with should show tendencies of restricting fertility on achieving the desired target for sons. The study however did not reveal such tendencies in the population which probably would have prompted to regard sons as an economic asset and that more sons would follow.

Other studies have basically identified son preference with the economic value added to them as it has been contended as providing old age security to parents and hence regarded as risk insurance for them. Cain (1982) having delved in this area of interest for long indicates that in the absence of other forms of insurance for the poor in the countryside, it is having children that acts as the only way to mitigate risks and uncertainties. Therefore the inability to produce a son becomes an unmet need. Cain (1986:377) at a later point of time regards such a situation

as " reproductive failure " being an outcome of not having produced a son who survives and is able and willing to assume responsibility for the parents who come to a stage of being unable to fend for themselves. His argument centres around the fact that reproductive behaviour in South Asia is geared to meeting such desires and needs to result in high fertility. In reiterating his stand Cain (1986:376) adds that " under demographic circumstances, a woman's progression through life is marked by the successive transfer of her dependency from one category of male to another: first father, then husband, and finally son." Accepting this pattern of dependency for women, they could be subjected to and affected by sudden changes in their economic wellbeing if they lose the male on whom they depend. Therefore such dependency places them in a highly vulnerable position.

Even in the matter of living arrangements, the daughters move away from the parental household on marrying to live amongst the husband's family, whereas a son on marrying would continue to live with the parents. Sometimes, even two sons with their families would remain in a single large parental household. In any event, the parents in the last stages of their life cycle would live with one of their sons and it is usually the youngest of them. Since the parental residential land is divided amongst the male issues, the other sons would also be living adjacent to them whereby parents could draw on their support as well. This is well established by Cain (1986) in his study of the Indian and Bangladeshi samples which revealed that 65 per cent of the Indian sample of the elderly, and 62 per cent of the elderly in Bangladesh lived with one or more sons. His study also revealed that 81 per cent of the elderly in the Indian sample and 91 per cent in the Bangladesh sample lived either with or adjacent to a mature son.

In the absence of a son, when the parents have to live in the daughter's house-

hold, it becomes a kind of atypical arrangement, which is deemed far from being satisfactory. It is because in the societal setting under review there is no accepted practice for a man to support his wife's parents, as such obligations are only to be directed towards his parents. This practice has been passed down the generations which entitles them with some form of proprietory rights to be in their son's abode, while it is regarded as an unusual arrangement to settle down to living with their daughters. This was amply testified in the study as only 2 in Bangladesh and 7 in India amongst the sample were found to be living in their daughter's households. Since the practice has such far reaching consequences to the parents at old age, they move towards adopting a male child. It is a step taken on being left with no options and it is often the offsprings of either a brother or a sister that they take up for adoption.

In Bangladesh, son preference is all pervasive. Bairagi and Langsten (1986:305) in a study of Companiganj in rural Bangladesh revealed that " at parity four, women without a son had the shortest birth intervals and the second highest proportion of births. Women with one son and three daughters had much lower birth intervals and higher proportions of births than women with three sons and one daughter." The findings establish that those women who already have sons would bear less children as a follow-up and would have longer birth intervals than those women who have borne daughters. It is because they would continue child bearing longer and would end up with higher subsequent fertility than those couples with one or more sons. These trends indicate that women regard it worthwhile taking the risk trying for a son, as the desire to have a son outweighs the risk involved in adding a female child to the family.

These findings tend to establish that in the rural settings in the sub-continent

large families become highly functional in nature and hence could be an outcome of conscious choice. But this nevertheless should not go unchallenged, because ignorance, especially in respect of contraception, and other aspects of society like traditional beliefs and cultural factors could contribute to large families and thus turn out to be less functional and problematic in nature. Above all, children preferably males cannot be regarded as insurance against any odds that the parents could encounter. Robinson (1986) is inclined to believe that they cannot provide insurance for parents against natural calamities which are a common occurrence today. He is right when you reckon calamities like the Bangladesh cyclone and the accompanying floods of 1988 and 1991. Above all, children cannot insulate their parents against turbulent political conditions which are again very common phenomena in the developing world today. Robinson tends to regard them as a liability in such situations. In these situations, male children could be conscripted to fight a cause. Independent of the above factor, they could nevertheless be considered an asset if they could become wage earners and thereby enhance the household income. This could be all the more valuable when the household is poor. But with large proportions of the households in many developing countries being landless e.g. in Bangladesh they are as high as 60 per cent (I.L.O.,1977), one is left to wonder how far children could contribute to farm labour. Above all, with unemployment soaring high in the developing countries, one has to be highly pessimistic about the quantum of demand that would be generated for labour so as to absorb them into productive employment. Within an economic framework offering such bleak prospects and with children having very limited opportunity to generate income, one has to be highly sceptical about the kind of insurance that they could offer to their parents. Moreover for children to come to the stage of being able to contribute to the family welfare, either through the process of

unpaid family labour or through wages earned outside the household, they need to be nurtured for a period of 15 to 20 years. Robinson contends that there is a net cost involved in caring and rearing them until they reach the stage of maturity to be able to shoulder such roles. It is a process which the poor could no doubt find difficult to fulfil. Pebley *et al* (1982) attribute the situation in Bangladesh, where fertility is high with a total fertility rate of 6.5 to 7.0 births per woman, to a substantial amount of unwanted fertility. Hence children have very limited utility value and as such are far from being functional and could be a reflection of the degree of ignorance that is prevalent amongst them.

Vlassoff (1990) made a micro study of the value of sons in rural Maharashtra in India. It was centred on investigating the importance of sons to widows, and hence needs especially to be viewed as a test of the risk insurance hypothesis with the mother needing economic support and care with the demise of the father. Case studies of widows placed under varying situations were made. The general picture that emerged was one that questions the economic value of sons. It is because by having a son or two, one does not seem to ensure old age security. Each case has to be viewed in the light of its own strengths and weaknesses. Sons need to be in an economically sound position before being able to provide the old age support needed by the parents. The study discovered that widowed mothers who lived with their sons did not derive any support from them. On the contrary, widows had independent earnings which they derived from working in farms and in other areas of employment based on the skills they possessed like being self-employed as a tailoress. Therefore by working in the family farm or in the household they had built up assets on their own merit. Vlassoff cites the example of a widow whose son is a truck driver in Bombay who lives with his son in the truck itself, a

disappointing example of the much preferred and valued son not having even a roof above him. Sons in such a predicament cannot possibly provide much support to their parents as they themselves have problems to eke out an existence. There were other similar examples cited in the study where the sons were married and lived in the city but were unable to provide any financial support to the widowed mother as their financial strength could hardly meet the obligations they had towards their own families. Although these sons were of no help yet they appear to guarantee an inert satisfaction to the mother, thereby conveying to the researcher that the value of sons goes beyond economic considerations. Vlassoff (1990:17) also cites cases in the sample investigated which revealed that " widows who lived alone, or with married daughters or brothers, were better off economically than those who lived with, and were dependent on sons." Given all these negative aspects of sons, it needs to be regarded that mothers have always had a " hidden contentment " inert in nature that contributes to the desire to have them. These are basically attributes that need to be considered as having a religio-cultural basis. Amongst those regarded as important are those associated with the transmission of the family name and property, those related to performing the last rites to the parents and the belief accompanying it in respect of the parents soul reaching *Moksha,* meaning heaven. These are some of the non-economic elements which determine the desire for sons. Therefore financial considerations do not seem to perform any overriding function in respect of son preference. Above all, since studies have established that the route to prosperity is not necessarily through bearing sons as they do not become obvious assets to the parents, it is basically the emotional satisfaction of having sons that seem to be the significant factor.

In this regard, it may be relevant to refer to linkages that have been established

between land and fertility by Stokes *et al.* (1986:306). According to them " the size of operational holdings is thought to have a positive influence on fertility, because households with larger holdings require more labour and are able to utilize family labour more effectively and this supports continued high fertility." This they designate as the land-labour demand hypothesis. What is embodied in their stand is the need for more able hands to work on the large landholdings, implying thereby the need for more males whose demand is relevant to the situation. This could be vital only to those who have to work their own land or land they had rented out for cultivation. Moreover, being a hypothesis put forth in the late eighties, one could question its validity in the light of the degree of mechanization that had been introduced in farming in most of the developing countries. The more laborious and time consuming processes like ploughing and threshing are carried out with the help of tractors. The weakness of the hypothesis stems from the linkages that are being established with holdings which are large. The hypothesis would tend to prove more plausible if the linkages are with smallholdings, which is in keeping with the landholding pattern of the developing world, where the application of machinery sometimes becomes impracticable and uneconomic.

The authors also postulate to the contrary with the land-security hypothesis in which they contend that landownership is exerting a negative long term effect on fertility, due to the income accruing to equity and the resultant increase it would contribute towards old-age security. Evidence for this they say could be brought forth from the developing world where there are many absentee landlords who by a process of returns to equity generate a guaranteed income, and such a form of land ownership provides security through the returns accruing to equity. Cain (1986) regards it hard to conceive that such a mechanism would contribute to keep fertility

down as he points out that the absentee landlords that Stokes *et al.* (1986) refer to are a rarity in most of Asia due to a series of land reforms enacted during the 1950s and 1960s which virtually dismantled the system. This is true in the case of Sri Lanka where the Paddy Lands Act of 1958 with its amendments thereto and the Land Reform Law of 1972 have both nailed the prospects of landlords gaining returns of the equity kind referred to earlier. The Paddy Lands Act provided security of tenure to farmers and regulated the tenancy rents. By this enactment the landlord lost his right to levy rents on farmers, a right that was transferred to the Commissioner of Agrarian Services and executed through the Cultivation Committees, a measure designed towards safeguarding more the interests of the tenant farmer than the absentee landlord. The 1972 Land Reform Law was a step taken to limit the size of holdings as it was laid down that the maximum limit of land a person over 18 years of age could own was 25 acres of paddy and/or 50 acres of other agricultural land. This came as blow to the type of large landowners referred by Stokes *et al.*, who derived revenue through equity payments which were deemed to form security at old age. Therefore in these settings it is difficult to assign to land the function to raise or lower fertility. Either way, the route would prove ineffective to contribute to son preference or to the contrary.

Fawcett and Khoo (1980) having looked at the situation in the more developed economy and crowded country of Singapore tend to view children more as giving emotional and psychological satisfaction to parents than as providing utilitarian and economic services to them. Such an outlook if prevalent amongst parents could lead them to disregard any sex preference in the composition of their families. This attitude resulting in the decline in son preference needs to be attributed to the general decline in the economic reliance on children.

In Sri Lanka, parents who serve in the public sector are entitled to a handsome pension which is almost equal to the salary drawn by them at retirement. This provides coverage to the widows as well until death. Private sector and State Corporation employees have similar cover provided by the Employers Provident Fund (EPF) to which both the employer and employee contribute while in service, with the employer contributing almost thrice the sum contributed by the employee. The fund accrues an interest added by the Central Bank of Sri Lanka which acts as a custodian of the fund. There is in addition an Employees Trust Fund which provides social security for workers on retirement from employment. Those in the services of the universities in the country have a similar fund operated by the University Grants Commission. Moreover, life insurance being popular does ensure the well being of the families in the event of the untimely death of the bread winner. Finally, there are a variety of social security covers provided for workers in the event of injury, disability and old age. There is also a workmen's compensation scheme to safeguard against accidents and occupational hazards which they would encounter while performing their roles in employment. Above all, Sri Lanka has set a unique example, having established a national pension scheme for farmers. The Farmer's Pension and Social Security Benefit Scheme was introduced in 1987. With nearly 65 per cent of the population engaged in agricultural pursuits, the impact of its benefit tends to be widely felt. Therefore, sex preference aside, the existence of these superannuation schemes would enable parents not to rely generally on their children.

2.7 Son Preference: The Changing Scenario in Sri Lanka

The trend now in Sri Lanka is to have fewer children and this includes sons as well. It has primarily to be attributed to the costs involved in raising large

families. This aspect aside, there has been a converging trend in the roles played by the male and the female issues. These changes are an outcome of the growing equalization of opportunities and the emergence of a more egalitarian outlook in society. Weighing the two broad based determinants discussed for son preference, one leaning purely on cultural and emotional factors and the other basically economic in nature, it could be said that the former, though deep rooted in society has very little material bearing on families unlike the latter which relates to the livelihood and security for the parents in their old age. However, economic factors have tended to lose some significance because of the movements towards equalization of sexes and a more egalitarian outlook emerging in Sri Lanka and in some other societies in the developing world notably in East Asia. They are supported primarily by government policy which removes discrimination of women in areas of education and employment and tends to transform them from dependants to producers. These societal changes have led to a rise in the opportunity cost of children. Since these are changes which are an outcome of economic and social benefits they help lower fertility.

All in all, welfare measures are the best contraceptive to curb fertility. Given the welfare policy measures in force in Sri Lanka, whereby women enjoy equal opportunities in the learning process and in employment which enables and entitles them to vie for positions with men in all walks of life, the preference for a son has lost its economic significance and is playing a diminishing role in the fertility decision making process. However, the Hindus and Buddhists who together form 85 per cent of the country's population still desire to have a male child for various reasons. The male child would carry the parental name and above all the parents consider that their claims on a male child after marriage are greater than those on

a female child, an outlook which needs to be viewed as hinging upon a patriarchal societal setting. This could also be due to daughters moving away from them to form part of another household after marriage. A male child is also important to perform the last rites to the parents on their death. Furthermore, a mother in this societal setting tends to consider her life incomplete unless and until she gets the opportunity to play a dominant role as a mother-in-law in her son's home. This in a way compensates for the subservient role she played under her mother-in-law when she entered her household after marriage. These are some of the traditional behavioural patterns in society, having no bearing on economic factors which could contribute towards couples desire for male offsprings. But with the expansion in education and the concomitant widening outlook that had set into society these practices have tended to lose ground.

However, the dowry system that is prevalent in Sri Lanka could yet add economic value to a male issue. A girl would normally need much resources to be given away in marriage. In such situations a male child is regarded as an insurance birth as the male being the recepient of a dowry also looks after the interests of his female siblings at the time of his marriage by way of drawing on resources from his partner to be handed over to his sister awaiting to be settled in marriage. This financial support which he draws from his partner is termed a ' donation ' obtained for his sister. However, Mandelbaum (1970) feels that in South and South West Asia, there is a growing awareness that only an educated daughter can secure the addition of an educated and accomplished son-in-law, who holds a position in the modern sector, and that a dowry alone may not meet the need fully. This apparently is a viewpoint which adds value for the education of women in the South Asian region.

As far as policies are concerned, Chowdhury and Bairagi (1990) provide affirmative evidence from a study in Matlab in rural Bangladesh of sex preference on fertility as Matlab provides strong evidence for desire for sons being dominated by economic considerations. They feel a programme to promote egalitarian attitudes towards children independent of the sex composition could lower fertility. There is quite a degree of consensus amongst researchers in this regard and would reinforce evidence in favour to account for the lowering of fertility in Sri Lanka in the light of the egalitarian policies and the resultant changing roles played therein by the women. In Sri Lanka, with equalization of opportunities in education for the sexes, women gained access to educational opportunities and qualified to vie for employment with men. The outcome was that in the eyes of the parents, the economic value of a son and a daughter converged, and hence on that count it became immaterial whether the offspring was a male or a female. Thus the education of women does bring about the desired effect not only on fertility but also on dampening the desire to have a male offspring. A study by Freedman and Coombs (1974) of Indian cities provides evidence of this outlook as they report an inverse relationship between wife's education and sons desired.

Finally, it is relevant to reckon the advances made in sex determination which do not result in the sex of the child being an outcome of chance but of positive selection. It is now known that couples could determine the sex of the child they desire to have. Techniques to establish either full or partial control to achieve the above had been outlined. The technique that is commonly reported is associated with the timing of intercourse relative to ovulation. There are other techniques of isolating the male engendering sperm in vitro. This sperm separation technique is regarded as a highly biased sex selection technique towards the production of a

son. With these techniques that help couples to determine the sex, the probability of having sons would be on the rise. However it cannot be used to increase the probability of bearing a daughter, hence regarded as being highly biased towards the production of sons. Research in the said area has not only meant that science has replaced a gift from god but may also unravel hitherto unknown demographic implications amongst populations adopting the method. The recent sperm separating technique invented by Dr. Ronald Ericcson in Wyoming, USA, basically involves separating the male and the female chromosomes. The sperm count in this method is done on specimens provided by would-be parents which carries the genetic information. Using the sample so provided and depending on the parents desire for the sex of the child, the sperm composition of the specimen is determined by laboratory techniques. The provision of more male sperms would result in male babies and more of female sperms would result in a female issue. Although the sperm is derived from and conceived in legitimate parents, the method involved is similar to that of the process of artificial insemination. The Ericcson method of sex selection has already been successfully tried out in highly populated countries like India, Nepal and in city states like Singapore. In India, the sex of about 15,000 babies has been so determined. Therefore, if parents have a strong desire for sons and with the know-how in hand to achieve it, the son preference issue would not lead couples ending up with larger families in the process of trying to achieve a desired proportion of sons in their family composition. Hence, the question of unwanted births and the resultant larger family sizes could be averted. Nevertheless, one cannot be certain as to how soon these techniques will disseminate into the population because successful application of these methods would call for a satisfactory level of awareness and an educational background to couples. Therefore, one has to be highly skeptical about its success in a society that is plagued by

illiteracy and the resultant inability to work out the *modus operandi* of the technique outlined. On the other hand the degree of literacy and the awareness shown in respect of family planning in Sri Lanka, the technique could successfully diffuse through the population.

2.8 Conclusion

With women in Sri Lanka entering almost all the services and professions through education, they were no longer looked upon as liabilities in the family who leaned heavily on their male siblings for support. Above all, males preferred a working partner over a dowry at the time of marriage. The effect of these changes was that females performed many of the economic functions which were hitherto being played exclusively by the males, with females gaining greater economic independence. The upshot of these developments, set in motion by education, was that the preference for a son ceased to be a factor contributing to higher fertility, as it greatly decreased the perceived benefit of a male child against that of a female.

Today women in Sri Lanka match men at almost all educational levels. The general rush now is to gain the necessary educational attainments so as to be able to obtain suitable employment in a competitive job-seeking context. In this regard, higher education became an asset that gave strength in the competition for employment, and parents came to realize that it would be a great drawback for their children unless their education answered the demands laid down by the modern sector for employment.

The economic opportunities newly created by education for women are an aspect that improved women's status. It led to developing greater equality within the family leading to higher aspirations. With such rising aspirations the time

spent by parents on children does not tend to increase but begins to appear more valuable as it is spent more profitably to achieve new goals associated with the modern sector.

Chapter III

Rising Age at Marriage : A Process in Fertility Transition

3.1 Introduction

The effects of an overall marriage reduction and higher age at marriage, with higher proportions remaining single and lower proportions married at different ages, upon fertility in developing countries have been adequately documented by Cho and Retherford (1974), Coale (1973), Coale and Tye (1961), Hajnal (1965), Smith (1976 & 1983), Yaukey (1973). More specifically its significance in Sri Lanka has been studied by Wright (1970), Fernando (1980), Little & Perera (1981), Langford (1981), Ogawa and Rele (1981), Caldwell *et al* (1982), ESCAP (1986),and by Retherford and Rele (1989). This evidence suggests that nuptiality reductions in the developing countries result in a retarding effect on fertility. Studies which sharpened their focus on Sri Lanka regard the country as an outlier amongst the group of developing nations, as its fertility transition is much more advanced than most, having experienced a substantial rise in the Singulate Mean Age at Marriage from 21.9 to 24.6 between 1960 and 1984. Recently, Tsui *et al* (1991) have highlighted how in Sri Lanka, despite girls leaving school at age 15 or 16, they do not marry until they are 24 and that by the time they have their first child they reach age 26.

In this regard, Coale and Tye (1961), from data relating to Malays and Chinese in Singapore, demonstrate that delay in age at marriage can reduce the crude birth rates and population growth, even if completed family size is not reduced. This

is because the crude birth rate is a point of time performance, and in the process of phasing out having children, the declining birth rate will not be reflected in the completed family size. Early marriage behaviour is pro-natalistic in outlook, because a woman's fecundity, or the potency to conceive and produce a live birth, is highest in her early twenties. Postponement of marriage shifts child bearing to less fecund years while early marriage shifts it to the most fecund years of the reproductive span.

Sklar (1971:172), indicated that the above relationship between age at marriage and fertilty was oversimplified. It is because it is not age at marriage *per se* that matters but a wide range of other factors that come into play in contributing if not determining delayed marriage, as in Sri Lanka. In this regard, reference needs to be made to the contribution made by an expansion in education in Sri Lanka, dealt with in the previous chapter. Consequent upon the economic success that women are able to gain through education, they achieve a kind of independence, freeing them from a state of economic vulnerability and enabling them to postpone the pressing need to lean for support through marriage. Albeit marriage is a necessary stage in the life cycle, women having gained autonomy through the process of gainful employment, have economic value and can postpone marriage thereby weakening any pressures for early marriage.

Safilios Rothchild (1985), having studied data from 77 developing countries, shows that the singulate mean age at marriage (SMAM) has a striking correlation with women's education and their economic strength. According to her, countries in which women are economically active and well schooled have higher SMAMs than do countries in which women are economically inactive and illiterate. Cochrane (1983), Smith (1983) and Standing (1983) show the significant relation-

ship that female age at marriage has on economically active women. They contend that economic independence results in postponement of marriage and their line of thinking tends to converge in concluding that the effects of female education on fertility are routed through age at marriage, namely that educated women have higher ages of marriage resulting in lowered fertility performance.

Accordingly, the high enrolment rates of female students in the schools and in the universities in Sri Lanka, coupled with the impressive literacy rates attained by women in the country, would encourage, and account for the rising trends in age at marriage. In addition to the above, are the interplay of cultural factors like the caste system, a dowry and horoscope matching, which form some of the preliminaries reckoned for marriage and are associated with the society under review. They continue to remain embedded rather strongly into the fabric of society, and being insensitive to other societal changes tend to contribute further towards the marriage delaying process.

In such a situation it may be contended that socio-economic and cultural determinants rather than late marriage alone seem to be responsible for lower fertility. Hence, it may be more appropriate to contend these factors form the determinants of age at marriage and regardless of their direct impact on fertility levels, late marriers would have smaller completed families and higher levels of childlessness than earlier marrying cohorts. Moreover, delaying births to a later time due to a postponement of marriage has its effects on lengthening the generation resulting in slower population growth. By length of generation is meant the " mean interval between successive generations, and the length of a female generation is approximately equal to the average age of mothers giving birth to live daughters provided current age specific fertility and mortality rates prevail "(Multilingual

Table 3.1: Singulate Mean Age at Marriage by Sex, 1901-1987, Sri Lanka.

Census Year	Males	females	Difference
1901	24.6	18.3	6.3
1911	26.5	20.8	5.7
1921	27.0	21.4	5.6
1946	27.0	20.7	6.3
1953	27.2	20.9	6.3
1963	27.9	22.1	5.8
1971	28.0	23.5	4.5
1981	27.9	24.4	3.5
1987		24.8	

Source: 1901 to 1921 figures from CICRED, The Population of Sri Lanka, (Colombo, Department of Census and Statistics,1974), table:3.11.
1946 to 1981 figures from Census of Population and Housing 1981, General Report, Vol. 3, p. 100 (Colombo, Dept. of Census and Statistics, 1986)
1987 figures for females based on Sri Lanka DHS Survey, 1987.

Demographic Dictionary, 1958:44).

The age at which women marry in Sri Lanka is high relative to other developing countries in South and South East Asia (Smith 1980). Trends in singulate mean age at marriage are shown on Table 3.1 for the census years 1901 to 1981. It has been rising steadily from 20.7 in 1946 to 22.1 in 1963 to 23.5 in 1971 and to an impressive level of 24.4 in 1981. Studies carried out earlier (CICRED, 1974:13, Fernando, 1975:189) have all contended that the increase in the age at first marriage has been the most significant factor in the reduction of fertility in Sri Lanka. Jones

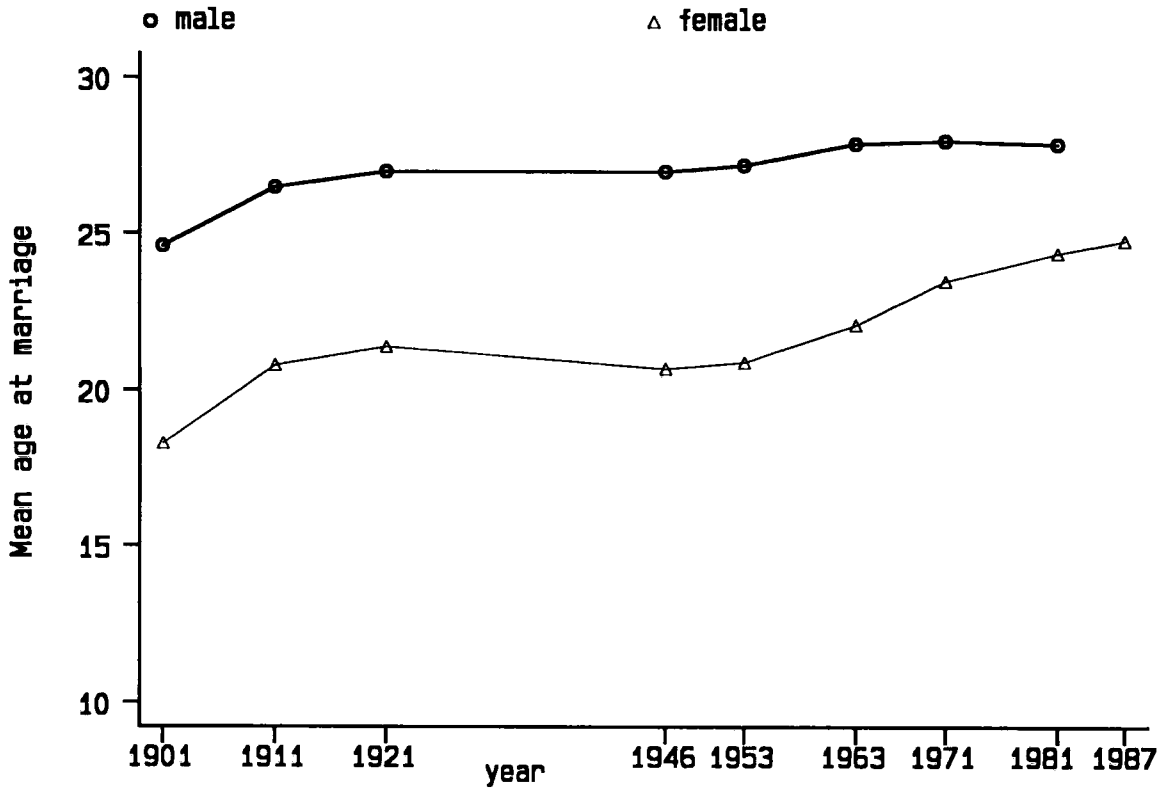


Figure 3.1 Rising Trends in Age at Marriage

and Selvaratnam (1972:26) state that "the decline in the birth rate between 1953 and 1963 was due primarily to changes in the age structure and to a rising age at marriage . The continuing decline between 1963 and 1968 occurred in spite of, rather than because of, changes in the age structure and was caused by continuing postponement of marriage and a decline in marital fertility among women over 25" (Fig.3.1).

During the period 1946-61, the crude birth rate in Sri Lanka fell gradually from 39 to 36. In the sixties however it took a path of rapid decline and it plummeted to 27 in 1974. After 1974 it kept fluctuating between 27 and 28 until 1981. The Total Fertility Rate fell from 5.0 in 1961 to 3.4 in 1980-82. Much of the decline in fertility during this period was attributed to the postponement of marriage with the singulate mean age at marriage for women rising by four since the end of the Second World War, making it one of the highest in the region. Further declines are documented thereafter both in the Crude Birth Rate and in the Total Fertility Rate. The CBR in 1982 stood at 27.6 and declined to 26.4 in 1984, it declined further to 23.4 in 1987 and the 1992 figures provided by ESCAP reveal an impressively low level of 20.9 births per thousand population. Equally impressive trends are observable in the Total Fertility Rate which is a more refined index of the fertility situation of a population. The TFR declined to 3.1 in 1985 and the 1992 figures provided again by ESCAP indicate a further decrease in the TFR to 2.5 births per woman in Sri Lanka.

Therefore, marriage reduction through raising the age at marriage and decreasing the proportions married at different ages has a negative impact on marital fertility, and in conjunction with the consequent process of increased generation length, should also retard population growth.

3.2 Probable Effects of Marital Postponement

Based on the Sri Lanka Fertility Survey data, Ogawa and Rele (1981) state that in Sri Lanka where fertility occurs mainly through the process of marriage, changes in age at first marriage have a direct impact upon fertility variations. Having examined the magnitude of the effect of changes in age at marriage upon cumulative fertility, they found a significant negative relationship between the two variables. Those who married under 15 years of age have an average of 6.3 live births while those marrying between ages 22-24 had only 3.2 births. Moreover the effect of age at marriage upon the mean parity was also found to be strong, as there was a difference of 2.3 children between women who married under 15 years and those who married at ages 22-24 with a mean parity of 6.0 for the former and only 3.7 for the latter group of women. The ESCAP (1986) study on levels and trends of fertility in Sri Lanka attribute the phenomenal decline in the crude birth rate from 39 to 29 in the period 1946-81 to the postponement of marriage which is revealed in the rise of 3 years in the singulate mean age at first marriage of women from 21.3 to 24.4 during the aforesaid period.

Agarwala (1965) indicated the probability of a 30 per cent decline in the birth rate of India if the female age at marriage was raised from 15.6 to 19.2. Chidambaram and Zodegekar (1969) expressed doubt as to whether postponing the age at marriage for Indian women by a few years would necessarily raise the age of mothers at first birth. However empirical studies by Afzal (1967) and Majumdar (1973) in the sub-continent established the credibility of Agarwala's estimates.

Similar findings have been put forth in China where fertility declines in mainland China have been attributed to a marked rise in the age at marriage (Tien,1970).

This has been supported by Lesthaeghe (1974:332) who had demonstrated the actual impact of marital postponement on Chinese fertility. Unlike in Sri Lanka, any success in raising the age at marriage in China is attributed to legislative measures. This was basically mooted with the view to adopting a consistent effort to expand non-familial female roles in society and generally to improve the status of women. The turn of events in China occurred only after the great famine disaster in 1961-62 when 27 million deaths occurred. This triggered the Chinese into action whereby they started a new programme of birth control and alongside which, they commenced advocating late marriage to the mid-twenties and that early marriage was detrimental to health. This change in outlook resulted in fertility declining throughout the sixties. From 1971 onwards there was official acceptance of family planning programmes which went hand in hand with encouraging late marriage, longer gaps between births and fewer children. These efforts were supported by legislation from 1980 onwards when a new marriage law raised the minimum age of marriage of women to 20 and that of men to 22, although initially this had the effect of lowering a little the average age of marriage and raising the birth rate. The law is given stringent application as revealed by a warning issued in February, 1989 by the Minister in charge of the State's Family Planning Commission that legal measures would be taken against those who violate family planning regulations. This was an outcome of the findings that in 1987, 2.5 million children which amounted to 10 per cent of all births occurred to couples who had not reached the legal marriage ages of 22 and 20 for men and women respectively (Population Headliners April, 1989). With the view to highlighting the impact of this outlook, it is relevant to indicate the findings of the Chinese National Fertility Survey of 1988 on age at marriage. According to the survey the unmarried women of reproductive age accounted for 29.6 per cent of the total women of reproductive age. In

early 1987 the women's mean age at first marriage was 22.2 and women who got married under 20 years of age made up 19.9 per cent of the total married. The Chinese have even moved further by regarding late marriage alone as being an inadequate step and now advocate late child bearing within a framework of late marriage.

3.3 Nuptiality Determinants

Marriage as an institution apparently varies from marriage in practice. The latter however cannot be viewed in isolation and independent of the many factors that contribute to it materializing. In an eastern cultural setting as in Sri Lanka, it is " workable," only on fulfilment of both economic and cultural conditions. But there are others that are demographic in nature. Dixon (1970:5) regards the availability of marriage partners as a major determinant in the process. Feasibility and desirability of marriage are two other areas he considers as contributing to the process.

By availability of marriage partners is meant the balance in the age and sex composition in society so as to promote marriage, and any imbalance would diminish the " pool of eligibles." This may occur through a process of migration or through changes in the mortality patterns causing an increase in female life expectancy which would result in a smaller male-female ratio. Fernando (1975:183) contended that the increase in the imbalance of the sex ratio in Sri Lanka was partly due to unemployment which resulted in a significant emigration of males aged 25-34 by 1971. On an earlier occasion (1970:4) he had accounted for such imbalances as being determined by a decimation of the female cohort in the forties due to high infant mortality rates caused by the malaria epidemic of 1934-38,

which he contends was reflected in the women in the reproductive age groups in 1962 and in the following years and consequently on the birth rate during these years. According to Fernando, the other factors which contributed to the decline in the birth rate in 1963 were the rise in the average age at marriage and the decline in the percentage of currently married women in the age groups 25-29 and 20-24 as compared with 1953. Therefore the diminution of the female cohort and the upward shift in the average age at marriage would have tended to depress child bearing in the early sixties.

3.4 Postponing Trend in Age at First Union & at Marriage

Table 3.2: The Percentage Distribution According to Age at First Marriage of Ever-Married Women aged 25-49 who were Married Before 25 years of Age

Age of Mother	Age at First Marriage						
	Under 15	15-17	18-19	20-21	22-24	Mean Age	Median Age
25-29	12.1	23.7	18.0	18.5	27.5	18.9	18.5
30-34	14.8	27.6	22.9	17.6	17.1	18.1	17.3
35-39	17.0	29.1	18.7	16.8	18.6	17.9	17.0
40-44	15.5	31.7	21.4	17.3	14.1	17.7	16.8
45-49	16.1	29.0	21.2	17.8	16.9	17.9	17.1
25-49	14.9	27.9	20.3	17.6	19.3	18.2	17.4

Source: World Fertility Survey, Sri Lanka, 1975, First Report, Table, 4.2, p.60.

Table 3.2 indicates that the mean age at marriage of women has risen consider-

ably over the years even among marriages occurring before 25 years of age. Among those aged 45-49, as many as 45.1 per cent married under the age of 18 while those marrying early among the 25-29 age group was 35.8 per cent. On the other hand, the proportion of those belonging to the age group 45-49 marrying at ages 22-24 was only 16.9 per cent, whilst those 25-29 years of age marrying between years 22-24 was 27.5 per cent. These patterns clearly reveal the prevailing upward trend in age at marriage in the country. Generally, the World Fertility Survey findings reveal that the proportion marrying at ages above 20 is higher among women in the younger cohorts than in those amongst the older cohorts.

Table 3.3: Age Specific Fertility Rates & Marital Fertility Rates, 1963, 1970 (Registration Data) and 1974 (WFS).

Age Group	Age Specific Fertility Rates			Age Specific Marital Fertility Rates		
	1963	1970	1974	1963	1970	1974
15-19	52	38	31	354	449	339
20-24	228	172	146	396	408	357
25-29	278	238	161	344	323	240
30-34	240	219	158	270	253	189
35-39	157	134	126	175	151	139
41-44	46	38	43	53	42	53
45-49	7	6	6	8	7	7
TFR	5.04	4.22	3.35			

Source: World Fertility Survey, Sri Lanka, 1975, First Report, Table 5.13, p.98.

Table 3.3: indicates a marked decline in the Total Fertility Rate from 5.04 in

1963 to 3.35 in 1974. The TFR now stands at 2.5 (1992). Besides, the decline in the Age Specific Fertility Rate and the Age Specific Marital Fertility Rates during the ten year period for the age groups 15-19, 20-24, 25-29, 30-34 and 35-39, Table 3.3 also reflects the varied degrees of impact of the declining trends in fertility on the different age groups during such a short span of a decade.

Table 3.4 The Percentage of Women Who Want No More Children or Have Been Sterilized, by Current Age, Family Size and Years Since First Marriage

Current Age		Family Size		Marital Duration	
Under 20	14	0	2	Under 10	33
20-24	30	1	14	10-19	78
25-29	47	2	50	20-29	92
30-34	68	3	73	30+	96
35-39	80	4	87	-	-
40-44	87	5+	93	-	-
45-49	94	-	-	-	-

Source: World Fertility Survey, Sri Lanka,1975, First Report, Table 6.1. p. 107.

Table 3.4 shows that about half of the women aged 25-29 wanted no more children with an expected progressive increase with age. In respect of family size, the desire for no more children reached the 50th percentile point as early as the second child with a continuing sharp rise to 73 per cent in the case of the third child. As for marital duration, among those who had less than 10 years of married life, 33 per cent seemed not to want any more children. Here again the percentage takes a sharp increase to stand at 78 per cent for marital duration of 10 to 19

Table 3.5: Mean Number of Children Ever Born to Ever Married Women by Age at First Marriage & Duration Since First Marriage , 1987

Duration Since First Marriage	Age at First Marriage					
	< 15	15-17	18-19	20-21	22-24	25-27
0-4	0.8	1.0	1.0	0.9	1.0	0.9
5-9	2.4	2.3	2.3	2.3	2.3	2.0
10-14	3.3	3.4	3.2	3.1	2.9	2.7
15-19	4.0	4.3	4.1	3.8	3.4	3.5
20-24	5.2	5.1	4.6	4.5	4.0	3.6
25-29	6.1	5.7	5.4	4.9	3.9	-
30+	7.4	6.3	5.6	-	-	-
All Marriage Durations	5.6	3.8	3.2	2.9	2.6	2.1

Source: Derived from the Report of the Sri Lanka Demographic & Health Survey, Colombo: 1988, Table 3.7, p. 46.

years. The above trends are an indication of the lessening value of children.

The Sri Lanka Demographic Health Survey (1987) provides further evidence of both the continuing postponements in the age at first union and in the age at marriage. Table 3.5 derived from the survey establishes that across all marriage durations, the age at first marriage has a strong effect on fertility. The most effective correlation is visible as the table reveals that the average number of children ever born to women married before age 15 is 5.6 whereas for those marrying between ages 25 and 27 years is only 2.1. This finding is attributed purely to fewer years

of exposure to the risk of conception before the waning stage in female fecundity. Moreover, the survey had identified trends in age at marriage by examining the experience of different cohorts. Findings revealed that women who are currently between the ages 25 and 40 married at an older age than women who are currently aged 40 and above. It is because it was found that the proportion of women married by age 20 in the age cohorts 20-24, 25-29, 30-34 and 35-39 had remained approximately at 30 per cent, whereas amongst older cohorts of 40-44 and 45-49, the proportion married by age 20 is much higher at 41 and 50 per cent respectively. Therefore, the findings of the Sri Lanka Demographic and Health Survey (1987) corroborate the findings of the Sri Lanka World Fertility Survey (1975) whereby more women in the younger age cohorts appear to have delayed marriage than those in older cohorts, a pattern which seems to have got well entrenched in the nuptiality behaviour as it had persisted for well over a decade.

In this regard, it is pertinent to make reference to the later age at first marriage of men, as it exercises a significant drag effect on women's age at first marriage. The figures for men as revealed in Table 3.1, also shown an upward trend after showing signs of having stabilised around 27.0 until the mid forties, but the average rose to 28.0 in 1971, then dropping slightly to 27.9 in 1981.

In Sri Lanka, when marriage is matched, it is customary to expect the bride to be about 5 to 7 years younger than the groom. There is thus a kind of compelling cultural need that the male at the time of entering marriage should be older than the female. It is part of the societal structure, where elders are to be highly respected, and in a traditionally male dominant set-up as in Sri Lanka a husband would want to command respect on that count as well. There are however other demographic implications to a rise in the age at marriage of the male as it tends to

exert a corresponding upward pressure on the marriage age of the women as well.

The singulate mean age at marriage revealed at the censuses (Table 3.1) shows that the female age at marriage had a more striking rise than that of the male resulting in the narrowing gap in the age difference between the male and the female indicative of a rise in female age at marriage taking effect independent of the males age. This has resulted in narrowing down the age difference between the Sri Lankan spouses which stood at 6.3 years in 1953 then to 5.8 in 1963 and tapered further to 4.5 and 3.5 at the census years of 1971 and 1981 respectively.

3.5 Sex Imbalance and Marital Prospects

Although men outnumber women in the total population by 3 to 4 percentage points in Sri Lanka, they do not exceed the latter in the marriageable age groups when comparisons are made between 5 years older cohorts of men with 5 years younger women within the reproductive age groups. With the view to ascertaining the availability of the appropriate age group for marriage, such a comparison is meaningful. Table 3.6 shows the sex ratios in the various marriageable age groups for the period 1946-81. It throws light on the availability of males at the different marriageable ages in relation to females five years younger at the censuses. Looking at men aged 20-44 with women aged 15-39, it may be observed that from 1963 onwards (when fertility declines in Sri Lanka have been adequately documented), there were 91.1 males aged 20-44 for every 100 females aged 15-39 in 1963, declining to 84.9 men at the 1971 census and to 82.1 in 1981. The degree of imbalance seems to be even greater when comparisons are made with men aged 25-29 and women aged 20-24 where in 1963 there were only 85.1 men to match the younger cohort of women, dropping rather drastically to 73.4 in 1971. In this regard, it is pertinent to

mention the degree of accuracy of age reporting in Sri Lanka at the 1971 and at the 1981 censuses as determined by the ESCAP study (1986) through the application of the Myers' Index which measures age heaping. The Index ranges from 0 denoting no heaping to 90 when all ages are reported at a single digit. The study revealed that at the national level, the 1971 census recorded an index of 16.6 for males and 22.2 for females. There was a significant improvement at the 1981 census when the index revealed a score of 8.9 for males and 11.0 for females.

One of the most striking features revealed in Table 3.6 is the reduction of the male cohort aged 25-29 in 1971 resulting in the sex imbalance of 73.4 men for every 100 women aged 20-24. In an attempt to account for this phenomenon it is necessary to first look into the unemployment situation which then prevailed in the land and the impact it had with regard to this. In 1969/70, 6.0 per cent of the male population aged 25-34 were unemployed and the 1971 census figures indicated a further rise to 11.0 per cent when 18.0 per cent of the labour force in Sri Lanka were unemployed (Fernando, 1975:183). The upshot of this basically unfavourable employment situation was two pronged: one led to the emigration of the unemployed in search of jobs and may be regarded as those choosing the path of least resistance, and the other was the angry reaction of the disgruntled elements who rose against the state, both of which had demographic implications later. The background to all this was that the government of the land changed hands in 1970, when a more socialist-oriented government was voted into power. Unfortunately, the new regime failed or was unable to fulfil the expectations of the youth who expected the new set-up to resolve the worsening unemployment situation in the country. On seeing no visible improvement in sight, the group of Sinhalese militants under the banner of " Che Guevera " (now referred to as the

Table 3.6: Sex Ratios in the Marriageable Age Groups, Sri Lanka, 1946-1981.

Age Group	1946	1953	1963	1971	1981
M(20-24) F(15-19)	103.7	116.4	88.3	90.6	89.7
M(25-29) F(20-24)	97.9	99.7	85.1	73.4	78.1
M(30-34) F(25-29)	91.2	84.5	95.9	77.7	73.3
M(20-34) F(15-29)	97.9	100.2	89.3	81.1	83.6
M(20-44) F(15-39)	101.1	101.7	91.1	84.9	82.1
M(40-44) F(35-39)	88.0	86.5	83.4	87.0	80.4

Source: Fernando, D.F.S," Changing Nuptiality Patterns in Sri Lanka, 1901-71" Population Studies, Vol. 29, No. 2, July 1975, table 4 for 1946-71 figures, 1981 figures derived from Census of Population and Housing 1981, Population, All Island Tables, Vol. 2, Part 1, table 4.

JVP), a movement which was hitherto dormant, rose against the state with an ill planned programme of militancy to overthrow the government and establish a socialist state of an extreme nature. This unfortunately resulted in dismal failure of the disillusioned youth as they fell victim to it since the government successfully crushed the uprising with military assistance drawn from its friendly neighbouring countries in the region. The government with the view to quelling this unexpected

revolution virtually adopted a highly ruthless policy of " search and kill " which led to many thousand deaths amongst the youth, although their numbers were neither documented nor accounted for.

Generally, the ages 20-34 for men and 15-29 for women are regarded as the marriageable age ranges for men and women respectively in Sri Lanka. Hence the ratio of men 20-34 to women 15-29 would become an effective index of the availability of partners for marriage. Table 3.6 reveals that this proportion declined from 89.3 men per 100 women in 1963 to 81.1 in 1971. The 1981 picture of the said age range shows signs of the number of available men picking up with a ratio of 83.6, whereas the ratio of men 30-34 to women 25-29 had dropped from 77.7 men per 100 women in 1971 to 73.3 men per 100 women in 1981.

These kinks in the trends in the ratios of the above age groups lend further support to the reduction of the male population of these age ranges during the 1971 insurgency referred to earlier. It is because those men who are in the age range 30-34 at the 1981 census would have belonged to the age range 20-24 at the 1971 census and would have by virtue of their age been the highly vulnerable age range that would have engaged in militancy, which is reflected in the low ratio of that cohort of men in 1981, a ratio of 73.3 men of 30-34 years of age per 100 women belonging to 25-29 years of age.

Comparisons of the sex ratio of men of older age cohorts to cohorts of women younger by 5 years has relevence in the context of marriage in Sri Lanka as it is an accepted practice and may even be regarded as an adherence to cultural norms prevalent amongst the Sinhalese, Tamil and Muslim communities who would all want the female to be younger by at least 5 years in age to the male at the time

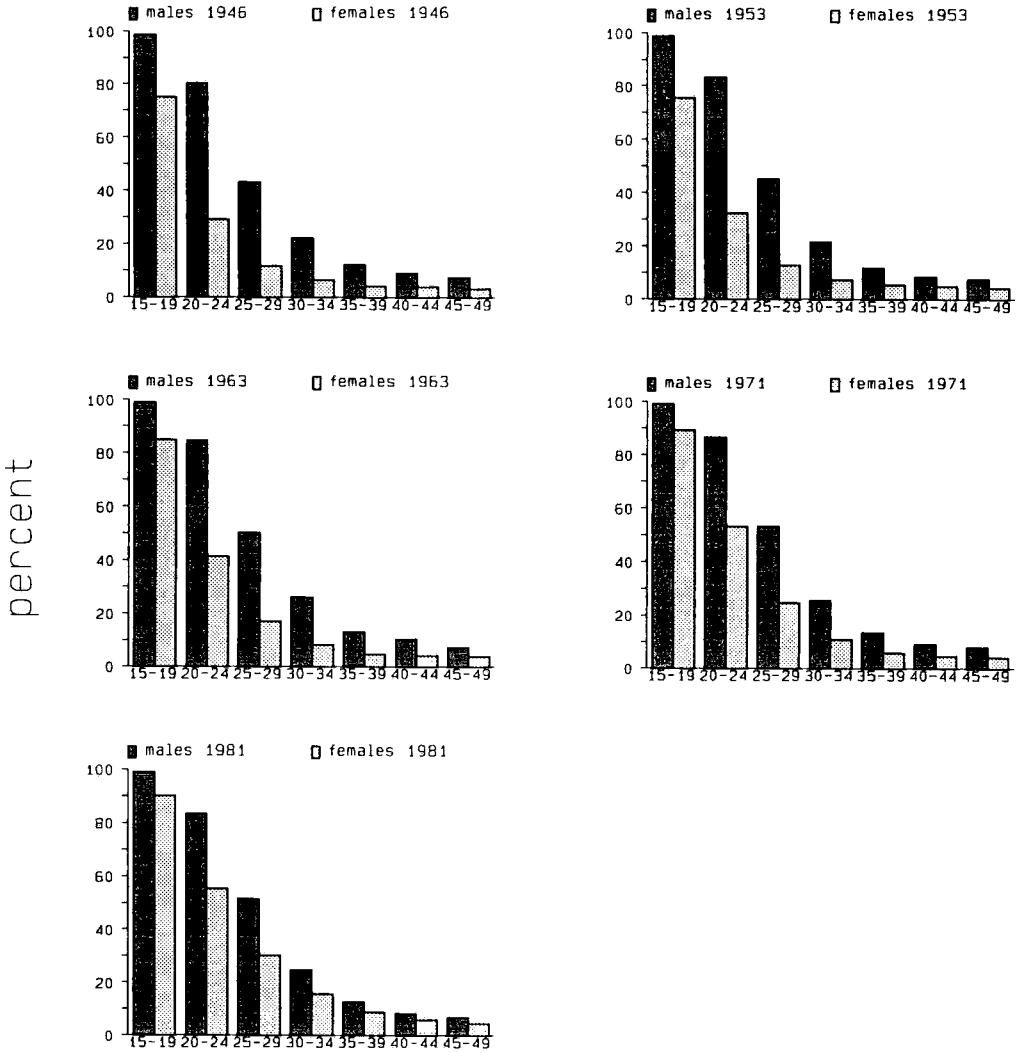


Figure 3.2 Never Married by Age Group 1946-81

of marriage. But in the light of the prevalence of the kind of imbalances in the sex ratio amongst men and women of marriageable age groups, the marital prospects of Sri Lankan women tended to be weak if not bleak. Such demographic trends progressively weakened the prospects of marriage for women over the years.

3.6 Never Married and Currently Married Population

It is also relevant to look at trends in the proportions never married and currently married over the years for both males and females as this reflects the prevalent changing nuptiality patterns in the land. Tables 3.7 and 3.8 show the never married and the currently married proportions for men and women in quinquennial age groups from ages 15 to 49 respectively for the census years 1946 to 1981. The overall picture is one of an increase in the proportion never married for both males as well as females in all age groups over the years. However, the increase in the proportion never married has been far greater in the case of the females than the males with the rise being more significant in the younger age groups; amongst the 15-19 age group, 75.0 per cent of the girls were single in 1946 and this proportion has risen steadily over the years and in 1981 reached a very strikingly high level of 90.1 per cent remaining single recording thereby a modest 20 per cent rise in the unmarried women. But the 20-24 and the 25-29 age groups show spectacular rises in the proportions single, the former showing a 88 per cent rise in the unmarried and the latter a very high percentage of 157 in the unmarried component over the aforesaid period (Fig.3.2). Census figures of 1946 show that only 29.4 per cent women aged 20-24 were unmarried, and this figure had risen to 55.3 per cent in 1981 with increases being recorded at each census in between. The proportion of unmarried females of 25-29 years of age recorded a two and a half fold increase from 11.8 per cent in 1946 to 30.4 per cent in 1981. The overall cumulative effect

is readily visible in the light of a 57.0 per cent increase observed in the never married women 15-49 over the 1946 to 1981 period. Based on the above non-marriage pattern for young women over the years, it could be concluded that women in Sri Lanka have increasingly postponed marriage, as is corroborated in Table 3.1.

Table 3.7: Proportions Never Married (Single) Aged 15-49, by Sex, Sri Lanka, 1946-81.

Age	1946		1953		1963		1971		1981	
Group	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-19	98.8	75.4	98.7	75.7	99.0	85.0	99.4	89.4	99.0	90.1
20-24	80.5	29.4	83.5	32.5	84.7	41.3	86.6	53.2	83.5	55.3
25-29	43.4	11.8	45.4	12.8	50.2	17.1	53.2	24.6	51.5	30.4
30-34	22.4	6.6	21.7	7.5	26.1	8.3	25.6	10.9	24.9	15.8
35-39	12.5	4.3	11.8	5.4	13.1	4.8	13.4	5.8	12.6	8.9
40-44	9.3	4.1	8.7	5.0	10.3	4.3	9.2	4.7	8.3	5.9
45-49	7.6	3.4	7.6	4.4	7.4	3.9	8.0	4.1	6.9	4.5
15-49	46.8	24.9	46.4	25.3	49.6	31.1	53.6	37.6	52.1	39.1

Source: Computed from reports of the censuses of Ceylon & Sri Lanka, 1946, 1953, 1963, 1971 & 1981, Dept. of Census and Statistics, Colombo.

With the marriage age gap having to be maintained between males and females in Sri Lanka, and with almost 90.0 per cent of the females in the age range 15-19 remaining single at the 1971 and 1981 census takings, the men aged 15-19 have consistently remained unmarried in the said age group, varying only by 0.6 per cent between 98.8 and 99.4 during the period 1946-81. But the trends in the never married men in general are less significant than those of women. As much

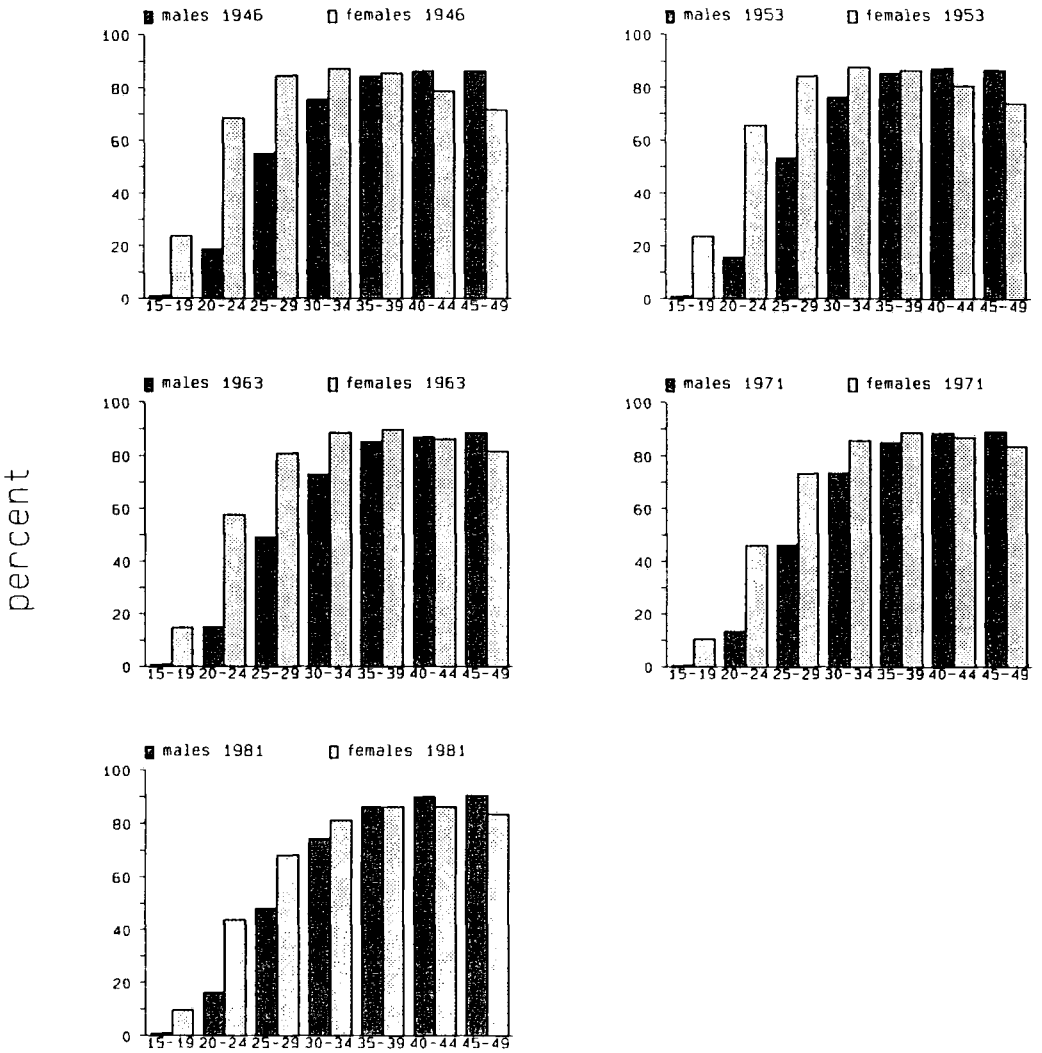


Figure 3.3 Currently Married by Age Group 1946-81

as the proportions never married were high for women in the age group 15-19, similar high proportions unmarried among men had been recorded in the 20-24 age group. It was 80.5 in 1946 rising to 86.6 single in 1971 and with an upturn in the trend marrying among men, the 1981 proportions never married dropped to 83.5 per cent. Similar rise in proportions unmarried may be noticed in the 25-29 age group amongst men, which having risen from 43.4 per cent in 1946 to 53.2 in 1971, dropped to 51.5 in 1981, reiterating the upturn in trends in the currently married proportion for men which rose from 46.2 in 1971 to 48.0 per cent in 1981 (Table 3.8).

Since the analysis is confined to the age range 15-49 for the never married men and women, the residue approximates to the proportion currently married as most widows and widowers fall outside the 15-49 age range, the only marital status that would remain within it are those divorced and legally separated who are few in Sri Lanka. The general picture that emerges from Table 3.8 in respect of the currently married is one of declining proportions especially amongst the younger age groups. This again is more pronounced amongst the females than the males. A revolutionary trend is seen amongst the females 15-19 of age which shows a decline from 23.9 per cent currently married in 1946 to a mere 9.7 per cent in 1981. Similarly the 20-24 and the 25-29 age groups show continuing declines in the proportions currently married with the 20-24 age groups indicative of a drop in proportions married from 68.4 per cent in 1946 to 43.7 per cent in 1981 (Fig.3.3). Moreover, amongst the 25-29 ages the proportions during the aforesaid period dropped from 84.4 per cent to 67.9 per cent. These are again an indication of the degree to which marriages are increasingly postponed in Sri Lanka resulting in a concomitant rise in age at marriage.

Table 3.8: Proportions Currently Married Aged 15-49, by Sex, Sri Lanka, 1946-81.

Age	1946		1953		1963		1971		1981	
Group	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-19	1.1	23.9	0.9	23.6	0.9	14.7	0.6	10.4	0.9	9.7
20-24	18.9	68.4	15.8	65.8	15.0	57.6	13.3	45.9	16.2	43.7
25-29	55.1	84.4	53.3	84.4	49.0	81.0	46.2	73.4	48.0	67.9
30-34	75.3	87.1	76.4	87.7	72.8	88.6	73.4	85.8	74.3	81.2
35-39	84.2	85.4	85.4	86.5	85.2	89.8	85.0	88.9	86.2	86.1
40-44	86.0	78.4	87.2	80.7	87.0	86.1	88.7	86.9	89.9	86.1
45-49	86.0	71.5	86.5	73.8	88.6	81.6	89.1	83.5	90.5	83.6
15-49	51.0	68.0	51.5	68.9	49.1	65.1	45.5	59.0	47.1	57.8

Source: Computed from reports of the censuses of Ceylon & Sri Lanka, 1946, 1953, 1963, 1971 & 1981 Dept. of Census and Statistics, Colombo.

The pattern amongst the currently married men had been one of declines in proportions until 1963 and an increase in the proportions thereafter. A deviation from the above sequence is however noticeable amongst the 20-24 and 25-29 age groups for men where the declines in the proportions currently married persisted until 1971, a phenomenon that could find plausible explanations in the arguments put forth earlier in respect of the reduction of the above cohorts of men. It basically hinges on the unemployment situation at home which impelled the emigration of employment seekers to countries which were more promising and provided lucrative employment. In addition to the above was the 1971 uprising of the militants, the combined effect of which contributed to a " marriage squeeze " situation during

the 1963-71 period which is reflected in the nuptiality trends.

3.7 Changing Nuptiality Behaviour and Fertility

Table 3.9 reveals an expansion in the number of women in the reproductive ages between 1963 and 1981 from 46.3 per cent to 52.2 per cent, recording a 12.7 per cent increase. But this had been accompanied by developments of an anomalous nature in the area of nuptiality whereby the proportion of currently married women dropped from 65.1 per cent to 57.8 per cent with a concomitant rise of 25.7 per cent in the proportions of the never married women from 31.1 to 39.1 percent. Therefore, one sees a nuptiality behavioural pattern that is conducive to fertility declines.

It may be contended that marriage patterns affected the long-term fertility decline in three ways: a rise in the age at marriage, a decline in proportions marrying especially during the prime child bearing ages, and above all a fall in marital fertility. The overriding function of the above gets well established on finding that the age-sex structure of the female population in Sri Lanka has changed in a manner so as to be favourable to high fertility. This is evidenced by an increase in the proportion of the female population in the child bearing ages of 15-49 from 22.2 per cent in 1963 to 25.5 per cent in 1981 recording thereby a 15 per cent increase (Table 3.10). Despite this expansion in women in the reproductive age groups, the age-specific fertility rates (ASFRs) show a declining trend in each age group during the 1962-82 period. Table 3.11 indicates phenomenal declines especially in the more fertile age groups and the limited performance at the beginning of the reproductive span of 15-19 and the waxing and waning trends observable thereafter are basically an outcome of the physiological ability of a woman to reproduce which

Table 3.9: Women in the Childbearing Age (15-49) as a Percentage of the Total Female Population and Women Currently Married and Never Married as Percentage of Women Aged 15-49, 1963, 1971 and 1981, Sri Lanka.

	1963	1971	1981
Percentage of Women 15-49 to the total Female Population	46.3	49.0	52.2
Currently Married Women aged 15-49 as a percentage of total Women 15-49	65.1	59.0	57.8
Never Married Women aged 15-49 as a percentage of total Women 15-49	31.1	37.6	39.1

Source: Computed from reports of the censuses of Ceylon & Sri Lanka, 1963, 1971 and 1981, Dept. of Census and Statistics, Colombo

wanes off with the diminution of their fecundity as they proceed from menarche to menopause. Hence, granting this behavioural pattern within the reproductive age span, it is the declines in fertility performance over the years of women belonging to these ages that are striking.

Table 3.11 reveals a persistent decline in ASFRs over the years that is consistent to all age groups within the reproductive span of women. ASFRs are those based on a narrower age range computed either by single years or for five year age ranges

Table 3.10: Age Distribution of Women as a Percentage of the Total Population, Sri Lanka, 1963-1981.

Age Group	1963	1971	1981
15-19	4.7	5.3	5.3
20-24	4.2	5.0	5.1
25-29	3.5	3.7	4.3
30-34	3.0	2.8	3.7
35-39	2.9	2.8	2.8
40-44	2.0	2.1	2.3
45-49	1.9	2.0	2.0
Total	22.2	23.7	25.5

Source: 1963-1971 figures computed from Annex III (statistical tables) Table: 6, United Nations, Economic & Social Commission for Asia and the Pacific, Bangkok, 1976, Population of Sri Lanka,ST/ESCAP/30, p 396-397, figures for 1981 computed from Census & Population and Housing, Sri Lanka, 1981, All Island Tables, Vol. 2, Part 1, Table 3, p 7.

and forms a more refined index of fertility than the crude birth rate as it reflects exclusively the performance of those women who are at risk to conceive and give birth. The ASFRs shown in Table 3.11 for the 1962-87 period provide adequate evidence of the transition to the lower level of fertility that is in force. During the 1962-72 period the declines amongst the younger age groups 15-19, 20-24 and 25-29 have been pronounced with declines ranging from 18 per cent to 23 per cent, whereas the 1970-82 period displays prominent declines amongst the older age groups within the reproductive span, with declines ranging from 25.5 per cent to 35.0 per cent in the 30-34, 35-39, 40-44 and 45-49 age groups. This reflects

a transformation of the desire amongst women to limit their family size which would result in a reduction in the size of completed families. On comparing the 1962-64, 1970-72 and the 1980-82 periods, the declines in ASFR's are apparent taking into consideration each age group within the reproductive span 15-49 over the years, with the behavioural pattern in the age groups within the 15-49 age range maintaining its waxing and waning rhythm at progressively lowered fertility levels with the passage of time. Further evidence in this direction is brought to bear through data drawn from the Sri Lanka Demographic and Health Survey of 1987 which reveals further consistent declines in the ASFR's during the 1982-87 period establishing thereby the continuing falling trends in fertility denoting that Sri Lanka is experiencing a transition to substantially lower levels of fertility. This is substantiated by the fall in the total fertility rate (TFR) which aligns with the falling ASFRs being an index of the average number of children ever born to a woman during her entire reproductive life span and hence regarded as a sum of all ASFRs.

This transformation is an outcome of changes taking effect in marriage and in the nuptiality patterns. Firstly, the pace of increase in age at marriage which has long been considered as the highest in the region (Smith 1980:3). However, the most significant factor contributing to the decline needs to be attributed to a change in the proportions marrying. The cumulative effect of a decline in the proportions marrying in Sri Lanka as revealed in Table 3.8 is indicative of the degree of the impact it could have on the declines in fertility. The proportions married amongst women of age groups 15-49 in 1963 was 65.1 per cent. It dropped to 59.0 per cent in 1971 and to 57.8 per cent in 1981, recording thereby a 11.2 per cent decline in cumulative proportions married in the reproductive age groups

Table 3.11: Age-Specific and Total Fertility Rates, Sri Lanka, 1962-64, 1970-72, 1980-82 and 1982-87.

Age Group	1962-64	1970-72	% Decline	1980-82	% Decline	1982-87	% Decline
15-19	52	40	- 23.1	39	- 2.5	38	-2.6
20-24	229	179	- 21.8	173	- 3.4	147	-15.0
25-29	280	227	- 18.9	197	- 13.2	161	-18.3
30-34	239	200	- 16.3	149	- 25.5	122	-18.1
35-39	156	131	- 16.0	89	- 32.1	71	-20.2
40-44	46	41	- 10.9	26	- 36.6	23	-11.5
45-49	7	6	- 14.3	4	- 33.3	3	-25.0
TFR	5.0	4.1	- 18.0	3.4	- 17.1	2.8	-17.6

Source: United Nations, Economic Social Commission for Asia and the Pacific, Bangkok, 1986, " Levels & Trends of Fertility in Sri Lanka: A District Level Analysis " Asian Population Studies Series, No: 62F Annex Table 4, p. 39, 1982-87 figures based on the Sri Lanka DHS Survey, 1987.

between the 1963 to 1981 period. In this regard, it could be observed that there are significant declines in the proportions marrying amongst women belonging to younger age cohorts especially those in the 15-19, 20-24, and 25-29 age groups. These trends need to be regarded as a clear reflection of the impact that rising age at marriage has on the nuptiality behaviour of the population.

Coupled with this transformation is the declines that took effect in marital fertility which need to be regarded as playing a predominant role in lowering fertility, as it is found to be the component where the changes have been more conspicuous than those due to declines in the proportions marrying. Age specific marital fertility rates (ASMFR) for 1962-64, 1970-72 and 1980-82 periods are shown in

Table 3.12. The 35-39 age group shows an impressive 40.0 per cent decline in marital fertility and the marital fertility amongst the 30-34 age group has declined by 32.0 per cent. It undoubtedly reflects the potency of the declines in marital fertility that had taken place during the two preceding decades. The declines in proportions married at the younger reproductive ages are associated with the increase in the Singulate Mean Age at Marriage (SMAM) reported earlier. This eventually gets reflected in lowering the TFR. This line of argument does also find support through a data analysis study by Retherford and Rele (1989) who through a process of decomposing data on age-specific proportions married and age-specific marital birth rates for two four year periods at a twenty year interval in Sri Lanka between 1960-64 and 1980-84 have shown the roles that nuptiality and marital fertility had played in fertility transition in the country. They observe a substantial decline of 1.91 children in the TFR from 5.16 to 3.25 over the period of study. This they account for by a 40 per cent decline in nuptiality and a 60 per cent decline in marital fertility, an outcome of the falling proportions married between ages 15-44 accompanied by a fall in the marital fertility and an increase in the SMAM.

However, the exceptional behavioural patterns reflecting a relatively high fertility performance of the 20-24 age groups rather consistently during the 1962-64, 1970-72 and 1980-82 periods which when viewed independently and in relation to earlier and later cohorts of women warrants explanation. The answer tends to lie again in the levels of the singulate mean age at first marriage of women over the years which remained high ranging between 22 and 24. Thus, having postponed marriage the tendency is certainly not to postpone having children and the tempo of childbearing is high with marriage, reflected in a higher age specific marital fertility performance amongst the 20-24 age groups. Hence, childbearing is now

Table 3.12: Age-Specific Marital Fertility Rates, Sri Lanka, 1962-64, 1970-72 and 1980-82.

Age Group	1962-64	1970-72	1980-82
15-19	356	388	377
20-24	397	391	394
25-29	346	310	288
30-34	270	233	184
35-39	173	148	104
40-44	54	47	31
45-49	8	7	5

Source: United Nations, Economic and Social Commission for Asia and the Pacific, Bangkok,1986, " Levels & Trends of Fertility in Sri Lanka: A District Level Analysis, " Asian Population Studies Series, No 62 F Annex: Table 6, p 45.

concentrated in a relatively short time period soon after marriage, because most couples would want only two or three children and the first birth occurs soon after marriage. This is followed by the inclination not to progress to higher parities thereafter resulting in a steady drop in the age specific marital fertility rates and a decline in the family size identified by the World Fertility Survey too.

The transition documented above is all the more unique when viewed against the progressive expansion of women in the reproductive years during the 1963-81 period, a change which should normally be accompanied by a corresponding rise in the fertility performance, but there are forces opposing this and counteracting these effects. Hence the answer to this anomaly lies in the efficacy of the social transformation that is in force in the Sri Lankan society which despite the expansion in the proportion of women in the reproductive age groups 15-49, has had

counter effects working in the opposite direction. The upshot of it all is visible in a rise in age at marriage, a fall in the proportions marrying, a concomitant rise in the proportions never married and the resultant declines observed in the marital fertility. The combined effect of them all could be deemed as having contributed to a downward trend in fertility in the country.

3.8 Socio-Economic Factors Delaying Marriage

The above situation, which is an outcome of sex ratio imbalances and nuptiality behaviour of the population, is demographic in character. There are however other non-demographic factors which have contributed to delayed marriages in Sri Lanka, notably economic constraints. This leads us into the feasibility aspect of marriage which is basically centred around economic deterrents. Matras (1971) and Ryder (1969) are among those who have attributed changing nuptiality patterns to economic fluctuations. It is argued that " better times " lead to younger marriages and that periods of economic recession are characterised by postponement of marriages. It has also been documented that the high levels of unemployment among males have resulted in delayed nuptiality in Sri Lanka (CICRED, 1974:13-14).

Delving a little into the past, Sri Lanka prospered from the late forties to the mid fifties when the country had a very favourable balance of payment situation brought about by the attractive prices it fetched through the export of its three principal products: tea, rubber and copra. The situation tended to change subsequently with an increase in the welfare measures adopted by successive governments, which coupled with an increase in prices of imports affected the economy adversely. According to the 1969/70 socio-economic survey, 85.5 per cent of the males aged 15-24 and 11.1 per cent of males aged 25-34 were unemployed. This

high proportion of unemployment amongst the 15-24 age group has since improved as according to the 1981 census reports, the proportion unemployed had dropped to 60.8 per cent, whereas the proportion unemployed amongst the 25-34 age group had increased to 24.5 per cent. In this regard it is necessary to emphasize the fact that in Sri Lanka marriageability varies with girls and boys. Girls are considered marriageable in terms of age, but to be considered marriageable a boy should have a job. The boy's age, talents, and personality are not regarded as criteria for qualifying for marriage. In the Sri Lankan societal setting, it is employment that is regarded as providing the personableness to a male. Above all, girls do not wish to marry boys who are without jobs and, with the prevalent unemployment situation, the boy apparently has to wait longer to seek suitable employment. Consequently, the girls have to wait longer for marriage.

In addition to the above, there has been a further change in the social structure. Many girls now desire to be economically independent and do yearn for a " status " - very different from the type of girls who wish to serve as housewives and be dependent fully on their husbands. The general expansion in education, examined earlier in the study had resulted in more and more women wanting to play roles outside their homes. Moreover, most men now also prefer their wives to be employed. There is now a definite change in the light of the high cost of living and tax relief for families in which husband and wife both earn, resulting in a preference for a wage earning wife. This trend is seen not only in the urban middle class but also in the rural areas. Hence, the upshot of these developments has meant that unemployment has been a major factor in determining if not delaying the process of marriage. A general trend towards a postponement of marriage is attributed to it, more so at a time when the boy and the girl mutually feel that

they should both be employed, in order to lead a comfortable life.

Furthermore, marriage in Sri Lanka has its special characteristics. It is generally accepted that marriage is an arrangement that is worked out with much precision, based on many considerations. Compatibility between the parties to be married has to be struck on many fronts. The parties to be married should belong to the same ethnic group. Although there are mixed marriages resulting from a process of self-selection mainly between the Tamil and Sinhalese communities, they do not occur in significant numbers as they do not receive parental approval. Ethnic individuality aside, there is in Sri Lanka, a social hierarchical stratification, the caste system which is well entrenched in society. It is a form of social construct woven into the fabric of the Sri Lankan society. The division that it brings to bear on society is determined by birth and prevails amongst the two major ethnic groups, the Sinhalese and the Tamils who are either Buddhists, Hindus or Christians. The system has an occupational basis. Those engaged in farming, called the *Vellalar* (Tamil) and *Goigama* (Sinhala) are regarded as belonging to the highest in the hierarchy. Lower down in the line were the *Kovias* who served the higher *Vellalar.* Others down in rank were the barbers and the washermen. The fishermen who live mostly along the coasts were called the *Karayar* (Tamil) and the *Karavar* (Sinhala). The tree climbers, named as the *Pallar* (Tamil) and *Durawa* (Sinhala) were branded as outcastes in the system. There were in addition, the 'untouchables,' who belonged to the *Paraya* caste, who were scavengers and performed services for the dead. Such social calibration sometimes stretches to the extent of those identified with the different castes living areally within well segregated geographic entities.

It is not the intention of the writer to delve into the details in respect of the

social stratification resulting from the caste system but to bring to light an area of social practice reckoned for marriage. The above is intended to provide an insight into how this social organization bisects society in Sri Lanka.

Despite the educational expansion and a resultant broadening of outlook amongst the people, it is an identity that continues to be maintained and marriages amongst different castes is not encouraged, for it is regarded as staining if not blemishing the honour and prestige of a family. Hence, mixed marriages amongst those belonging to different castes are less likely than amongst different ethnic groups. This is because in the event of it occurring, would have far reaching consequences. If for example a boy belonging to a " higher caste " weds a girl of " lower caste ", the long term effect is that the girl's family would proudly lay claims of relationship with that of the boy's family, an elevation in status to them but which has the opposite effect for the boy's family and is considered detrimental being regarded as having adverse effects on the marriage prospects of the other members of the family yet to be married. It becomes a kind of permanent stigma which is irreversible. There are other interesting immediate effects of such a mix-up. It manifests in the form of boycotting the wedding ceremony itself, as on attending the wedding one has to take part in the feast that follows. In this situation, the higher caste families would deem it demeaning to sit alongside and amongst those of the so-called low caste as they partake in it, an embarrassment they would strive to avoid. In effect, even in the event of a man is highly qualified and professionally placed, the parents of the female who belong to a higher caste will not consider him for marriage, despite the occupational strength and the associated status he holds as the overiding determinant in the decision making process is caste. Academic and professional achievements neither could compensate nor help conceal the social stigma a low

caste holds as it is regarded as staining the family honour of a higher caste.

Having dealt with the aspects related to caste in marriage, there are in addition others, where in all cases the bride has to be a virgin and be younger than the groom. The above in agreement, sets the match-making process in motion, but there are other more rigid areas of matching that are sought involving horoscopes of those to be married. Comparing horoscopes is an important feature when arranging marriage. Unless the horoscopes closely match, the parties do not venture on marriage. It is worth looking at this feature in more detail.

3.9 Determinants and Consequences of Horoscope Matching

Horoscopes of individuals form a document providing evidentiary value of the nature of one's life and hence spells out the stellar influences on the life of a human being on earth. The basic elements incorporated into them are the planetary positions, the asterisms or fixed stars, the signs of the Zodiac and the circle of Houses. It is cast by astrologers and the entries embodied in it speak of the character, the many facets of one's personality, abilities and potentialities, or in other words it is a record in which is constituted the sum total of the characteristics of an individual as he or she goes through the life cycle as determined by the planetary positions at the time of birth.

When a child is born, the parents make note of the accurate time of birth and an astrologer is called upon to cast a chart (horoscope). The horoscope so cast forms the primary aid of the astrologer giving the position of the planets in relation to the houses, the signs and the earth at the exact moment of birth of the child. This information becomes vital to the astrologer as it provides the necessary leads to plot the relative positions of the other planets for the ensuing years. Once

this information is gathered, the astrologer will be able to interpret the various relationships to obtain a " reading ". Perinbanayagam (1982:120) contends that " such operations are based on neither whimsy nor charlatanry. Rather they are subject to a rigid discipline that ensures that only particular relationships have given meanings ". The planetary positions portray the sequential influences on the life of a person. From observations of the horoscope, the astrologer will be in a position to form a number of conclusions about one's life cycle in respect of one's abilities, character, career, health, life's partner, wealth, children, and a range of other characteristics which make up one's life. It is my intention to delve into this aspect which is related to marriage matching in fair detail solely because not much has been said and documented in this direction. It is an area that has not been reckoned by demographers and population geographers as contributing to delays and difficulties encountered when attempts are made by parents to get their children married.

The horoscope is used as a tool and forms a vital guide when one is at the threshold of marriage. The eastern outlook towards marriage is that it should not be ephemeral in nature and on the contrary is regarded as a " a thousand year crop ", meaning thereby that one does not take any chances when embarking on it and hence would want it to be a lasting bond between the couple and the parties involved. Evidence to substantiate this outlook towards marriage in the Sri Lankan society is revealed in the findings of the Sri Lanka World Fertility Survey which documents that 96 per cent of all ever married women have experienced only one marriage with only a mere 4 per cent having been married twice or more. Having noted earlier the deterministic nature of the horoscope for one in every stage of the life cycle, horoscope matching becomes an important procedure when marriages

are to be arranged and unless the horoscopes are in agreement, the parties do not venture on marriage. Being wedded to this line of thinking, it needs to be acknowledged that astrology and astrologers come to play a significant role in the decision-making process. Marriage is one that is included in this broad domain, and there are of course other areas commonly warranting consulting an astrologer, namely that of siting a house and a well on a block of land, determining auspicious moments for various household ceremonies and the sowing of seed by farmers etc.

The most critical decision in the life of a Hindu or a Buddhist to which an astrologer makes a contribution is in the contracting of marriage. However, parents would normally come to this stage in the process only when satisfaction is reached in areas pertaining to caste, class, income, and occupation. With self selection not given popular acceptance, marriages are arranged by the family. Perinbanayagam (1982:138), states " this process is no doubt arduous as very exacting forms of etiquette and protocol are observed in contracting a marriage. The first step in the process is for the father of an eligible female to discover suitable males. This he accomplishes by conducting inquiries among friends, relatives and amongst marriage brokers. The identification process establishes the caste, class and occupation of the prospective groom as well as the reputation and connections of the family. If the parents of the young man and the male himself, who speaks through his parents initially are willing to pursue the matter, the father of the female requests for the horoscope of the male and gives in turn the horoscope of his daughter." The exchange of the horoscopes is done simultaneously to prevent either parties making any adjustments in the charts with a view to making a "marginal" match "stronger." Moreover, the matching of horoscopes besides the astrological aspects, enables the parties to take time to consider the marriage. As often, marriage bro-

kers who enter the picture to make matching have their interests basically centred around the financial benefits that would accrue to them by helping to contract the marriage rather than the long term interests of the parties to be married. Hence it becomes a just cause for buying time during which period of time they make the necessary inquiries, study the prospective partner even when he or she is at a distant location.

Nevertheless, Perinbanayagam (1982:138-139), regards that " the investigation as thus far conducted is not considered adequate. After all, all that is known is the past conduct and present disposition of the young man. It is common knowledge that all human beings change, just as their fortunes in the world do. The good and the honourable become mean and dishonourable, and their fortunes too can undergo changes for better or worse. The world and its inhabitants are subject to forces beyond their control, as is evidenced by the changes that it and they experience. No simple theory of causation would explain such changes, and in any case no such comprehensive theory is available. It is held that a rational decision can never be made in matters of this sort, as a human being who enters a relationship generally increases his experiences and undergoes a variety of changes. Changes in character and attitude in disposition and manners, in the course of a life are ubiquitous, and these changes have commensurate influences on the people implicated in the life of the person in question. Hence, one must not only know what a person is like at a given moment in time but how he will turn out in the future, how the constellation of forces that will inevitably affect a person as he passes through life will affect the relationships that he will have to undergo in the future." Therefore it was vital if not crucial to look into or foresee what was in store for the future and astrology was consistently held as a very satisfactory tool

towards gaining knowledge in that direction.

Horoscope matching not only would signal the degree of compatibility between the male and female to be married but would in addition predict the future trends in their life, the children they would bear etc. Hence it is a reading which not only provides a current verdict of the partners to be but also how the marriage would eventually turn out in the distant future, as it tells of the constellation of forces acting in the long-run that will inevitably affect a person as he/she passes through the many phases of the life cycle within marriage. Hence, in an attempt to have some knowledge of the future trends in life of the intending bride and groom, astrology is deemed to be a satisfactory if not an acceptable tool.

When marriage matching is attempted through astrology using the charts of the prospective bride and groom, an astrologer analyses the many elements in each of the charts with the view to striking compatibility. The elements of astrology are the planets, the asterisms or fixed stars, the signs of the zodiac and the circle of houses. There are basically 12 aspects that are compared meticulously when contracting marriage.

1. *Graha* (Planets) This is the position of the planets and is set up by dividing the globe into 12 sectors and each position of the sector is called the *Graha* or the House. The 12 Houses are Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces. The Graha of an individual is ascertained both by the time of birth and the specific location where the event occurred on planet earth and hence its significance lies in the distribution pattern of the planets in the 12 Houses at the time of the birth of the subject. Each House is ruled by one of the nine planets, namely Sun,

Moon, Mars, Mercury, Jupiter, Venus, Saturn, Ragu (Dragon's tail) and Kethu (Dragon's head). These planets have dual effects as some have benevolent effects and others malevolent effects on individuals. Moon, Jupiter, Mercury, and Venus are regarded as planets that play benevolent functions, whilst Sun, Mars, Saturn, Ragu (Dragon's tail) and Kethu (Dragon's head) have ill effects on subjects. Nevertheless, each planet has five qualities and they are that of ruler, exalter, debilitator, enemy and friend. These functions tend to change with time as they are determined by the degrees on which they stay over the respective Houses.

Arising from the above, individuals come under both beneficial and detrimental effects of the planetary settings under which they were born. In the process of match-making for marriage, if the chart of a female is found to be mostly influenced by planets and constellations which have less benevolent effects, a search has then to made for a male ruled by similar planetary qualities or those that possess qualities to counter such ill effects of the female chart and vice-versa. These are methods often adopted to tide over situations in individuals charts so as to strike compatibility. A good example of such malevolent aspects on charts occurring is when the male or female's chart has planet Mars located in the seventh House and hence comes under Mars affliction. This is regarded as unlucky and highly detrimental. Therefore subjects with such afflictions could only marry those with similar afflictions whereby the ill effects get nullified. Hence, the planetary setting and their disposition in the two charts needs to be compatible for fulfilling the requirements of marriage.

2. *Tali* (Longevity of marriage) *Tali* is the chain that the groom ties round the neck of the bride at the most auspicious moment in the marriage ceremony.

This is linked with longevity of the union as the woman wears the tali round her neck only while the husband lives. If the husband dies the wife loses the right to wear the *tali.* This area of compatibility on being achieved is deemed to provide longevity to married life. It is again a constellation related aspect of match-making whereby the stars with which the subjects are identified have concomitant association segments of the body like the foot, hand, neck, thigh. For example those born under the constellatory influence of *Magha* and *Achuvini*, are both associated with the head. Within the framework of these astrological determinants, compatibility could be established only when the constellatory links are identified with different segments of the body.

3. *Yoni* (Sexual compatibility) This is a vital aspect reckoned in deciding the degree of compatibility. Based on the time and date of birth, the subject is identified with certain animal species of either sex and hence becomes an interesting process of establishing agreement. Animals used in the astrological determination process includes the horse, elephant, lion, goat, deer, cat, rat, tiger, bull, mongoose and the snake. The subject gets associated with the female or male species of an animal based on the constellations. An individual born with constellation *Revathy* is associated with the female elephant. Those born with the ruling star being *Bharani* are linked with the male elephant. Similarly, *Magha* is represented by the male rat and *Citra* by the Tigress. In the process of establishing agreement amongst charts if the male and female are both horoscopically associated with female animals, the compatibility is said to be optimum, but if both happen to be associated with male animals the agreement is moderate. In the event of the female to be matched is associated with a male species of the animal and the male with the female species, the

compatibility virtually has zero value. Moreover along with this aspect being in agreement, the animals representing the male and the female have to be friendly e.g. the tiger and the bull, the cat and the rat cannot be matched as there is inborn enmity between them as one forms the prey to the other. Hence, harmony could only be struck if they are represented by friendly animals with the sexual compatibilities referred to earlier.

4. *Naksatra* (Asterism) This is an important element in astrology and is again derived from the date and time of the birth of the subject and forms a vital ingredient in the match-making process. Every subject born is identified with a star or the constellation of the day. There are 27 in number each with its ruling qualities and determinant characteristics of the day. If the male and female are born on the same *naksatra* (asterism), the compatibility is achieved with ease. Generally 2 to 3 stars rule each House. A focus on asterisms permits a more detailed sub-division of the Zodiac and helps the science of astrology to be more precise, affording astrologers to work out with greater accuracy the prediction exercise. It enables to predict the varied characteristics and fortunes that go along with the varying dates and times of birth. In the interpretational process, it assists to calculate the varying combinational effects with the planets. All in all, the asterisms aid a more refined interpretation of the characteristics of the subjects thereby enabling compatibilities made to be exact. It has the quality to allow for shades of meaning to be embodied in horoscopic interpretations and thus becomes a route to making horoscopic determinations more accommodative in their application.

5. *Ganam* (Divine support) When subjects are born under the influence of constellations or stars, they also come under the influence of certain species which

are divine, human or demonic and they become identified with one such species and these elements in a chart are utilized in the match-making process. In an effort to match *Ganam* it is necessary to seek for partners with similar species i.e. the human with human, the divine with the divine and the demon with the demon in their respective charts. Nevertheless, the matching of the human with the divine is within tolerable limits, but the human with the demon and the divine with demon is declared as highly incompatible. Therefore it becomes necessary always to look for another with the demonic species to match one with a demonic *Ganam*.

6. *Mahendram* (Male heirs) In arranging marriages concern is expressed about offspring, especially as to whether there would be male issues. This has relevance in the context of the prevalent outlook in society where there is a preference for a male child to be the heir and to carry the name of the family uninterruptedly and of lesser significance is to perform the last rites for the parents on their death, an area dealt with in the earlier chapter. In the horoscopes, this is a determination based on the location of the sun and the rising star at the time of birth of the subject under consideration. Since this element in the chart has bearings on the fertility performance, the comparison to determine the compatibility is made by having the female chart as the basis whereby the potentialities and the location of the fifth House in respect of her House of ascendance is reckoned. For example, if the female was born under the influence of Aries, the fifth House from that House of ascendance becomes Leo which has the ability to give children. In the absence of a favourable fifth House location which has the potency of providing children in the female chart, a viable alternative is to seek a favourable fifth location in respect of the male chart.

Here again, the potentialities of the fifth House are determined both by the occupation and the aspectation of the planet.

7. *Rasi* (Sign of the zodiac) It refers to the position of the Moon in the female's chart. A female to be matched for marriage to a male in respect of the element *Rasi* in the chart, the male's position of the Moon should stay more than six houses away from the female's chart so as to have optimum compatibility. However, if the location of the moon is in the same house for both the male and the female, it is regarded as compatible. The following are some of the detrimental effects predicted in astrology of lesser locations away from the Moon.

   (i) If the location of the Moon in the male's chart is only two houses away from that of the female, it is predicted to result in sudden accidental death.

   (ii) If the location is three houses away, the result is a state of eternal sorrow.

   (iii) Fourth and fifth locations predict a life filled with misery.

   (iv) The sixth location away is predicted to lead to loss of children.

8. *Rasi-athipathy* (Lord of sign) This is again a determination made, using the position of the Moon on the charts of the subjects, especially that of the female. It is based on the nature of the houses which the Moon occupies in the male's and female's charts. Accordingly, compatibility can only be struck if the House in which the Moon is in occupation for the male is friendly with the House occupied by the Moon for the female. For example, if the Moon for the female is located in the House of Venus, agreement in matching could only be reached if the Moon in the male's chart occupies the House Jupiter, as Venus and Jupiter

are regarded in astrology as friendly. On the other hand, if the moon in the male's chart occupies the House sun, it is deemed incompatible as the planet sun and moon have enmity astrologically built into them.

9. *Vasiyam* (Attractiveness) This aspect speaks of the mutual attraction for one another. In this regard, opinion is voiced that there is no standard beauty that results in passion and that a girl who is regarded as beautiful by one in this respect does not find similar acceptance by another and that beauty and the resultant passion is generally in the beholder's eye and self respectively. All this according to astrology is determined by planetary positions and asterism of the charts that are compared. Accordingly, a particular male being attracted by a female and *vice-versa* is determined by the respective Houses to which the subjects being matched belong. Therefore such mutual planetary attraction has meaning only amongst those having planetary cum constellationary agreements. If the male and female belong to the same House the outcome becomes one where the personal attraction between them would be at its maximum. Some examples of Houses between which compatibility in respect of attraction could be achieved are Aries and Leo, Sagittarius and Pisces, Gemini and Virgo. This is an aspect that is given much weight in horoscope matching for marriage.

10. *Vetai* (Mental compatibility). This again is an area which cannot be generalized, but would tend to match in accordance with and within the framework of astrological determinants. Here again for the marriage union to be binding, the constellatory ties are needed. The male and the female need to be identified with stars which ' attract ' and not repel in their association with each other.

11. *Viritcam* (Compatibility with vegetation) This is an element used in astrology

which makes comparisons based on the vegetation with which the subject is identified. This is again determined by the date and time of birth and hence has its bearings on the constellations that rule them e.g. subjects ruled by *Magha* are associated with the banyan tree while those under the influence of *Visaka* are identified with the wood apple tree. In thus identifying with the type of vegetation, the significance lies in finding whether the tree with which the subject is associated is latex borne or not. The banyan tree is latex borne whereas the wood apple tree is not. This characteristic of the tree with which they are linked is an index of the fertility of the male or the female. If the horoscopes matched are both associated with latex bearing trees, they are expected to prosper in life and would be blessed with children. If the position of the female's constellations associates her with a non-latex tree and is matched with a male identified with a latex bearing tree, the couple would have very limited issues as it is deemed a moderate match in respect of fertility. If parties matched are both linked with non-latex bearing trees, the fertility performance would be very low and could even result in the loss of their children and possessions. Hence this element in horoscope matching throws light on the reproductive ability of the partners matched and depending on how much value the parties add to its outcome, they either pursue with the marriage or drop off.

12. *Ayul* (Longevity). This would foretell the length of life that the couple would lead. It also has the quality of having mutual effects whereby a weak chart of one could gain strength by better planetary positions of the other. Hence the final outcome is the interplay of the two charts which is pronounced as the verdict.

Therefore horoscopes could establish causal links between planets asterisms and the individual. Included amongst those characteristics it could foretell are the character, abilities of a person, and the state of health. It thus has the capacity to estimate and predict the relationships amongst partners. With such conceptualizations, it becomes possible to make inferences regarding compatibility and related aspects between subjects born under the given signs. Amongst the above elements discussed in horoscope matching *Graha, Vasiyam, Yoni, Tali,* and *Ayul* are regarded as vital as they determine aspects such as general agreement, mutual attraction, sexual satisfaction, happiness and above all longevity in life respectively.

In considering the above range of components in a chart, each one is compared and judgement passed about the degree of compatibility which is declared as optimum, moderate or totally incompatible. Based on the above individual judgement of compatibility a measurement on the holistic compatibility situation is given a percentage. A percentage above 80.0 per cent is deemed as satisfactory for a consummation of marriage. Once a decision is arrived at, the astrologer's recommendation is used to justify it. A decision so made, based on astrological recommendations almost becomes a marriage made in the heavens. It is thus obvious that fulfillment and optimal matching of all these elements in the charts represent severe constraints to match making and result in delayed marriage.

In this regard, it is necessary to elaborate on the significance of Karmic forces, a belief that is built into both Hindu and Buddhist religions and how they form astrological determinants. Karma is deemed basically as what you " reap " in return for what you " sow ". In otherwords, one's good deeds bring forth rewards of a positive nature, whereas those of an evil nature bring destruction and misery

in return. Therefore, it is by and large a method of accountability of the good and evil that you accrue both in the present life and in subsequent incarnations. The following linkages would throw better light on the above. The planetary positions at birth cause the degree of affliction to which an individual would be subjected to, and it is Karma that determines the planetary positions at birth, in other words an individual is born in accordance to the Karmic causations. Therefore, it is Karmic determinants that are manifested and echo in one's life in the form of afflictions. Arising from this, it needs to be said that if an individual is born with an adverse combination of planetary positions such as Mars in the Seventh House, it is regarded as an outcome of his or her having failed in the duties in the earlier birth which has resulted in being born under such planetary afflictions. Therefore, the time of an individual's birth, which forms the basis for casting his or her chart (horoscope) is purposively related to one's Karma. Karmic forces arrange the positions of the planets at the time of birth and astrology acts as a tool to discern if not decipher such characteristics in an individual, thereby giving earthly interpreters a chance to ascertain, explain and account for one's life on earth.

Sometimes when marriage does not occur for a girl who has reached marriageable age, the entire household is worried as they feel they have failed to fulfil their parental responsibilities towards their daughter. Perinbanayagam (1982: 146) states " as horoscopes of the grooms come and go and as grooms come to see the girl and reject her - on account of her looks or the insufficiency of her dowry, the household becomes unhappy and anxious, and the self esteem of the girl as well as of the parents ebbs slowly to a lower and lower tide ". In such painful situations, the parents would get eager to find what the girl's chart has in store for her. On

finding that Venus is afflicted, they attribute these disappointments and delays to it, because when Venus is causing it, conditions for love, courtship and marriage are inhibited. This enables the parents to have some form of consolation as the delay in their daughter's marriage is something that is regarded as beyond their control and attributed to horoscopic determinants. Such Venus afflictions are considered as an index of Karmic weight which the parents and the girl are destined to go through. The only consoling aspect is that such afflictions have a time period, e.g. the scourge of Venus lasts for a stipulated period of about three and a half years, and after which the clouds tend to clear for the girl and she would not only marry but also lead a happy life.

The other major planet which afflicts prospects of marriage and delays marriage is Mars, as it has the quality of hindering and not promoting to accomplish matrimonial links. This is all the more detrimental in the event of Mars being found located in the Seventh House on a girl's chart; it acts as a repellent for marriage as such a planetary position is said to bring ruin and destruction to the one who marries her. However, one could horoscopically circumvent such a situation by looking out for a match with similar planetary combinations and constellations in the chart which would expunge its effects. In such instances, it becomes a protracted procedure finding such a match, born with Mars in the Seventh House, a constraint again deemed as being determined by Karma. Delays in such cases could be inordinate as it is not only finding a groom with Mars in the Seventh House, but the sample needs in addition to be an accomplished one and hence does contribute to delays in arranging marriage.

Marriage as such in Brahaminic/Karmic theory is fore-ordained. One marries according to the law of Karma, the fact that one gets married at all, the age at

which the marriage takes place, the nature of the spouse, the number of children that one begets, the nature of the children and as to how long the marriage would last (in terms of the longevity of the spouse's life), whether it would be a happy union are all regarded as Karmic determinations. Therefore, the various aspects of the chart become indices of the Karmic weight of each person. The features of the chart that are chosen for comparison nevertheless have a logic to them. Each of them is related by means of one theory or another to the Brahaminic theory of marriage , a patriarchal system in which a virgin is given in marriage to a man who establishes a household and produces children. The wife is bound to the husband, one and only, and at his death loses status, power and privileges and becomes an evil omen. She normally cannot re-marry and is barred from all religious and domestic ceremonies. Hence parents would never desire their daughter to be put to such an embarrassing state for others to regard her as a sight of bad omen, not welcomed on happy occasions, like for weddings to bless the newly wedded couple etc. The above traits built into the societal setting mean that they would not take any chances, but ensure that by a meticulous process of matching find a partner for marriage that would be long-lasting. By and large, Karmic forces are said to manifest their power through planetary afflictions, and astrological reasoning could be put forth for problems arising out of Karmic determinants. Therefore, someone who believes in a world ruled by Karmic law, would regard every step taken by him to be in accordance to his destiny and determined by Karma.

Although statistical evidence is hard to find, the writer having lived in this societal setting most of his life and mingled with the people, shared their problems and having served as a university teacher with men and women undergraduates of marriageable age would vouch for these as contributing to delays in marriage.

They form examples of how marriages could be delayed, explanations which are totally outside the scope of demographic considerations that affect societies which regard horoscope matching as a unnecessary prelude to marriage.

This leads us to accepting that events in an individual's life are pre-determined by planetary positions at the time of birth and that compatibility in marriage is also achieved within the same framework of determinants. Hence marriages so consummated tend to be lasting and frictionless, which again is the effect of the interplay of planets. Arising from the above, it may then be inferred that the power of these constellations would be enacting universally. On granting this fact, could it be used to account for the high divorce rates and the resultant broken homes in a Western society where such procedures are not followed and where horoscopes do not form a document of Karmic identity of individuals ?

3.10 The Dowry System: A Determinant of Delayed Marriage

Having dealt with Karmic considerations which delay marriage, there are others which are of a purely economic nature which stall the process of marriage, in particular the prevalence of the dowry system which influences how soon a girl can find a partner. A girl with a " dowry power " can lure and virtually buy over a well placed boy into marriage. In fact a man who is professionally accomplished as a doctor, engineer, accountant or as a university teacher is offered a very handsome dowry and lured into marriage. Hence the occupational security and the position held by the man along with his family background are also reckoned in marriage. The dowry also acts as a status symbol to the girl who is to enter a new household. In fact the parental wealth gets transferred in her name and the husband could only draw on it with the consent of the wife. In situations where the parents are

not economically sound, the girl has to earn to collect her dowry and to make the jewellery. This is now made possible by the educational expansion in the country and the opportunities for employment being thrown open to women equally as for men. In such situations marriage tends to get postponed resulting in late marriage.

The effect of the dowry system on marital postponement cannot be generalized in the Sri Lankan context as it varies amongst the major ethnic groups. This is due to the prevalence of varying attitudes and practices amongst them. In Sri Lanka there are three types of marriages amongst the population. They are the General, Kandyan and Muslim. The Tamil and the Low Country Sinhalese population come under the General marriage, whereas the Kandyan Sinhalese and the Muslim populations come under the Kandyan and Muslim marriage respectively. According to the 1973 registration data, the mean age at marriage for males and females under General marriages was 27.7 and 23.3 respectively and for the Kandyan marriages it was 26.7 for males and 21.7 for females, whereas for the Muslim marriages it was 25.9 and 19.4 for males and females respectively.

These varying mean ages at marriage for the different ethnic groups have implications with their attitudes and practices towards the dowry system. The Tamils and the Low Country Sinhalese who fall under the General marriages category are effective adherents to the dowry system as it is somewhat inbred into them. Accordingly, it is reflected in the higher mean age at marriage for both males and females. The Kandyan Sinhalese, although they accept and grant a dowry, hold an intermediary position.

On the other hand amongst the Muslims it is totally absent and they have an entirely different system whereby the groom pays what is termed the *mehr* to

acquire his bride. By *mehr* is meant an offering that the groom needs to make by law which however has more of a religious connotation but does form a basic ingredient in the legal procedures associated with marriage amongst the Muslims. Therefore the *mehr* is embodied in the marriage ritual and forms an essential part of it. The background to this practice which is woven into the holy Koran is based on the fact that the girl by contributing to the process of marriage is deemed to satisfy the sum total of the elements that make up a married life and hence the *mehr* becomes a grant the male reciprocates with having achieved the marital state. Above all, the practice finds justification in view of the behaviour that accompanies marriages amongst Muslims, such as for example when the grant of the *mehr* tends to stand in good stead to insulate against situations where in the event of the girl being divorced, she could yet last until she marries again. Nevertheless, in the process of practising *mehr*, it has the quality of being flexible enough and takes many modified versions which are more relaxed than what has been laid down conventionally. The above would account for the wide gap in the mean ages at marriage between the Muslim men and women, where the Muslim women have the lowest mean age amongst the groups and the men with a relatively high mean age at marriage similar to the other two groups, as they are saddled with the task of bearing the total cost involved in the marriage exercise. Similar practices are common in Africa e.g. in Zimbabwe, it is termed *labola* meaning bride price. In Nigeria it varies from one tribe to another. The Ibos refer to it as *akirika nwangi* meaning dowry on behalf and in honour of the bride. The procedure involves when a man identifies a woman to his liking, he goes across to her parents with cola nuts and wine to discuss the prospects of marriage and as to what he could offer as bride price. Amongst the Hausas it is a less demanding practice as it is not given rigorous application. In these societies it is practised by all, independent of

their religious identity, whereas in Sri Lanka the adherents are only Muslims. The salient difference lies in the fact that in Sri Lanka except the Muslim community, all others pay a dowry to the man.

According to the dowry system, the bride's parents at the time of marriage grant her a dowry in the form of cash, dwelling house, jewellery and arable or non-arable lands. In addition to the above, the bridegroom's parents could demand what is termed a " donation " or " key money " for any of the groom's unmarried sisters. This is a kind of " beyond dowry " deal and often happens in cases where the parents of the groom are not economically sound but who have an educated, professionally qualified son whom they " utilize " at the time of giving him out in marriage. This in short is demanding a second dowry for the female sibling with whom the groom was brought up, with the sole intention of getting her settled in marriage. In the Sri Lankan societal setting, it is a kind of obligation that the male sibling has to fulfil towards the sister. In this regard, it could be said that there are instances of some most eligible males, holding good positions either in the public or private sector, staying unmarried for long, due to an unmarried sister in the family. The outlook, especially amongst the Tamils is one where there is a sense of guilt in the mind of the young lad to forge ahead into marriage leaving behind a sister to remain a spinster with an unmet need. Moreover, the parents of the young man who marries under these circumstances are also unhappy that their son is to be married as they look upon the move as one where their son is to provide a married life to a girl without providing or paving the way for a similar life for his sister. It is an expression of having let down his female sibling.

Attitudes similar to this have been observed in South India (Caldwell *et al* 1982: 709), where it has been pointed out that " most families still feel an unease at

having a single menstruating female under their roof and the search for the husband begins, the dowry payable mounting as time passes, clearly showing a concept akin to that of damaged goods ". A semblance of this outlook is what prevails in Sri Lanka, a land with religious, cultural and other related social affinities. Furthermore, problems pertaining to settling female siblings in marriage has led to the practice of dual-marriages also termed inter-marriages. According to this practice, a brother along with his female sibling from one family enter wedlock with a pair of siblings in another family. In such situations, dowry transactions do not gain dominance as both families give their sons out in marriage with the primary intention of settling their daughters. Hence it becomes a marriage deal that accrues mutual benefit. However, in such cases, care is taken to see that the grooms are equally placed professionally, so as to provide no room for bargaining in that direction. Normally, in such arrangements the grooms on either side are highly desirable individuals being characterised by education and urban employment.

Apart from the above, another ill effect of the dowry system is where a man would be reluctant or shun to marry a girl who is one amongst three or four other girls in a family. Marriage into such a family is considered as virtually taking over and being saddled with a fair share of the responsibilities of seeing his sisters-in-law through marriage, having entered the household as a son-in-law. Such a marriage is often avoided and not given parental encouragement either because the man has to continue playing his roles as a son and bear the responsibilities of finding the dowry and other related needs for his own female siblings. This could even occur after leaving the parental household; Caldwell (1982: 722) referring to the South Indian experience states " help from sons does not cease even with partition especially in crises or for dowry expenses for their sisters or for funerals

and festivals ".

Hence, economic constraints affect the feasibility aspect of marriage which is reflected in delays in the arrangement of marriage. Most parents of daughters experience a series of problems in arranging a marriage, difficulties in finding a potential husband for their daughter whom they approved and whose parents approved of their daughter in turn. Normally, disagreements arise about the size of the dowry and other related problems of raising the money needed for both the dowry and the wedding expenses. Thus most marriages either get inordinately delayed or do not materialize due to the dowry factor.

The most unfortunate aspect of all is that the dowry forms an essential part of the marriage ritual, among both Tamils and the Sinhalese. The charge has often been made that while in traditional society the dowry was a means of maintaining the independence and integrity of the wife, it has now become so commercialised in the society of today that marriage has ceased to exist as a moral contract. In fact the abolition of the dowry system never became a rallying cry of the women's movement in Sri Lanka. The first and the last attempt to deal legally with this problem was made in October, 1938, when it was proposed in the then legislature that it should be made illegal to grant or accept dowries. The proposer, De Zoysa, called the dowry system a social evil and in addition drew attention to its obnoxious effects: there have been cases when young women have committed suicide because their parents were not rich enough to give them dowries. He also tried to appeal to male pride: " for a young man of character and ability to insist that the bride's parents should give him a dowry is not only immoral but also shows that there is no character, no manliness ". The motion was dealt with humorously by several members of the legislature only to be defeated by one vote (Jayawardena, 1986:

130, Quoting Hansard, 27 October,1938).

3.11 Conclusion

Finally, desirability of marriage influences the timing of nuptiality. It relates basically to the incentives regulating decisions when to marry and whether or not to marry. The incentives especially that of education and female labour force participation are positively correlated with age at marriage (Palmore and Ariffin, 1969; Bogue, 1969; Dixon, 1975). These factors have an important bearing on nuptiality behaviour in Sri Lanka, an area which receives attention later in the study when looking at the changing roles of women.

Arising from the above it may be contended that the phenomenal decline in fertility in Sri Lanka during the post independence era may not necessarily be associated with the pace of economic growth. The rates of change in fertility appear to bear little correlation with a change in per capita income. Developing nations like Sri Lanka are confronted with very different set of circumstances and the truth appears to be that a complicated mix of variables are at work, some economic and others not.

Rising age at marriage has been adequately documented as a major determinant in effecting fertility declines. Amongst the underlying factors those of availability, feasibility and desirability of marriage have been much discussed. The changing demographic compositions, especially the sex imbalance, have determined the availability factors. Economic fluctuations resulting in the "ups" and "downs" of the times tend to either promote or impede the feasibility factor related to marriage. However the desirability component stands out distinctively in the decision-making process of women resulting in a postponement of marriage leading to expo-

sure to marital life for only a limited period during the reproductive spell resulting in the obvious effect on fertility.

Chapter IV

Women's Progress and Social Change

4.1 Gender Inequality: Its Causes and Consequences

4.1.1 Introduction

" I think it is clear that we are unlikely to make much progress in understanding the impact of women's position on the fertility transition without abandoning the use of standard fertility surveys and the statistics that governments normally collect. These sources have two signal shortcomings. First and most important, they do not measure the aspects of women's position that are theoretically relevant to the fertility or mortality transition; and second they are normally collected from widely - dispersed probability samples of national populations and thus do not permit systematic comparisons of women situated in settings governed by different gender traditions." (Karen O. Mason, 1987:16)

Generally, women are accorded a lower status in society *vis-a-vis* men. The term 'weaker sex' assigned to them in a way endorses this prevalent attitude. However, assigning such status to women should not underrate the contribution they make to the family building process, as they perform valuable domestic roles while managing the home which despite their high economic value tends to get undervalued due to its invisible nature. Sundaram and Leng (1985:6) state that " Women must be freed from their identification with housework if their status is to be enhanced. The low social and economic value accorded to housework trans-

lates into low societal estimation of those women who are confined to housework without other avenues to prove their worth. The under-valuation or non-valuation of domestic work derives from its unpaid and private nature, typically divorced from market exchange. Since the rate of remuneration is frequently taken as a measure of the importance or worth of the work performed, unpaid housework is often regarded as socially insignificant. As the products of domestic labour do not enter the market directly, such labour is not considered economically productive. It has no exchange value and therefore no value in the capitalist market economy."

Relevant to the above is the fact that the proportion of women in the labour force is the popularly used index to gauge the degree of women's participation in economic activities. But it does not provide any coverage of those activities that women perform within the household. Hence the quantum of women in the labour force becomes an inadequate measure, as it fails to reflect the degree of gainful roles that women perform. Sivard (1985:11) regards women as " a minority in the coventional measures of economic activity because those measures under-count women's paid labour and do not cover their unpaid labour. The value of women's work in the household alone, if given economic value, would add an estimated one third to the world GNP." With the prevalence of such growing consciousness in this direction it is relevant to focus attention on the kind of corrective measures that were outlined by the United Nations so as to gain effective application during the last census round in most countries of the world. In India where women play multitudinal roles, they expected the 1991 census to bring out the hidden if not the invisible contribution that women make in building up society. This was achieved by enumerators eliciting information from women on the kind of work they engage in the home, and on the farm. The groundwork to achieve maximum

success, bearing in mind the degree of illiteracy that prevails amongst the Indian women, has been done through pre-planned poster campaigns and other efforts disseminated through the media. This helped to keep the response errors to the minimum. Sadik (1990:2) indicates that " as mothers, producers or suppliers of food, fuel and water, traders and manufacturers, political and community leaders, women are at the centre of the process of change." This amply justifies the efforts undertaken to enumerate all work done by women at the 1991 census round.

Efforts to fathom the contribution made by women arose due to deficiencies that were highlighted by critics who maintained that the multi-faceted roles performed by women failed to get into statistical records, and hence they claim that their contribution remained clouded if not hidden. The error seemed glaring when the Census of India in 1981 revealed that only 15 per cent of the country's workforce were women. This led to the feeling that women who supported everyone else were made to appear a dependent group. The revelation of such shortcomings in the earlier census-taking exercises has prompted the need for adequate measures to be taken to make the count more gender responsive, with a view to bringing out the weighty and hidden contributions made by women in the nation-building process. Ideally, women would primarily improve their image in society and above all would enable researchers to fully understand the determinants of social change now underway in the developing societies.

4.1.2 Status of Women: Its Obscurities

While attempting to look at women's role in any societal setting, the term "status of women" does not seem to convey any clear cut notion and hence does lack some degree of clarity. This is because it could also refer to a hierarchy that

exists amongst women which highlights the differences between them in respect of their power, prestige, and the resources they possess under their control. Hence, it could tend to reflect the division that exists between the educated, the powerful and the resourceful and those who lack such qualities. Therefore, it may not necessarily convey the meaning of women's "position" versus that of men in respect of these areas. The apt meaning needs to be one of inter-gender relationship rather than intra-gender. Thus " gender inequality " may be deemed a more appropriate term to highlight the discrepancies that exist between the sexes in measures which popularly form the benchmarks for drawing the distinction, namely that of power, prestige and the control of resources.

It was basically in the sixties that demographers began to write and argue that the status women held, firstly within the family, and secondly in the society at large, had demographic implications. Amongst those who initially identified themselves with this somewhat illusive if not an elusive concept were Ridley (1968), Dixon (1975) and Germain (1975). This concept and the associated line of thinking tended to gather momentum with the passage of time when studies probed deeper into those variables that formed the basic determinants in bringing forth fertility transition. Although the status, and the resultant roles that women play, may not form a core variable in most theories of fertility transition, it had nevertheless entered the mainstream of demography, especially that of social demography. Caldwell (1982), Cain (1982), Dyson and Moore (1983) and Jayawardena (1986) have dealt adequately with the status of women in respect of gender inequality and its implications in the demographic scene.

4.1.3 Consciousness of World Bodies and Organizations

At this juncture, it is pertinent to refer to the roles played by the United Nations to alleviate the position of women. As a world body it was conscious of the inequality that permeated the lives of women, and it initiated steps to better their position in society. Its efforts resulted in the Decade of Women (1975-85) which was meant to focus attention on equality, development and peace, which formed the basic themes for action. This was an outcome of the resolution passed at the World Conference in Mexico City in 1975 to mark International Women's Year. However, it was a culmination of the action taken by the women's movements which were active from 1960 onwards and gradually gained strength due to the avowal by the governments and the United Nations to act with a sense of commitment against the discrimination perpetrated on women, which began to be reckoned as a canker on modern society. At the Mexico sessions, both the Decade of Women and a World Plan of Action were outlined so as to identify the problems facing women and to map out a programme of action to bring redress to them. The plan basically contained 155 articles which formed the guidelines for national action through the decade and was addressed to governments for action with a view to eliminating discrimination. It was nevertheless felt that achieving whatever that was set out in the plan of action rested upon the creation of conditions for the equal enjoyment of human rights, such as those of social, economic, cultural as well as those of civic and political significance. The achievement of equality was above all crucial in the plan of action and to accomplish it education was regarded as an effective mechanism.

The subject continued to be very much alive and gained importance at world gatherings of professionals and policy makers in the population field as women's

roles and the effects of changing them continued to come up for discussion. In this regard Mexico City once again became the chosen forum for action when the World Population Conference (1984) came to be held there. A declaration made at these sessions was of quite a different nature from that made at the earlier conference held in Bucharest (1974). With the view to laying curbs on fertility, the Mexico Conference maintained a different outlook and the proposals arising out of its deliberations reflected an increasing awareness of the fact that the success of population policies were dependent on them being set within an appropriate framework of social and economic development. Accordingly, the Mexico sessions laid greater emphasis on the fact that for population programmes to reach beyond the goal of fertility reduction, they should seek to improve the status of women and enhance their roles in the family, the community and in the society at large. To achieve this, it was felt that all institutional economic and cultural barriers which preclude a fuller female participation in the economy and in society should be removed. This outlook expressed at the Mexico sessions established the close links that exist between the status of women resulting from gender inequality and that of population dynamics. Consequent to voicing it at such World gatherings by those engaged in population activities, a lively debate now exists amongst researchers as to the social and cultural factors encouraging fertility control in different countries at different points of time. The timing of a decline in marital fertility is clearly not a direct function of economic development in isolation, but reflects more specifically societal changes and in particular changing attitudes and values towards child bearing, family size and above all the role of women and children in the family and in society.

4.1.4 Some Consequences of Gender Inequality

Hence fertility performance may be related to gender inequality, which tends to manifest itself in many forms within the household and in the process of interacting firstly with the husband and then with the rest of the members of a patriarchal household. Fertility tends to be high amongst populations where the women feel insecure in life and where they are led into playing highly subservient roles to their husbands. When a woman enters a household through the process of marriage and finds herself not being accorded the rightful treatment, there could always be a potent danger of her being divorced by her husband even without her consent. For example, according to the prevalent Sharia Law in Muslim communities in West African Countries like Nigeria, the procedure is so very easy if not convenient for a man to divorce his wife. It involves only pronouncing four specified times that he wishes to divorce her in the midst of a few members of the community. Under such situations of gender insecurity, women yearn to have children to provide support for themselves in later life or to help bind the husband effectively to the family.

In other situations when a woman enters a " strange household " through marriage and finds limited or no social or economic support from within, she would remain virtually isolated and in a vulnerable position amongst her husband's kin. Under such circumstances, she can strengthen her position in the family and begin to command respect only when she bears a child, preferably a son. It is only by such performance that she gets herself woven into the fabric of the new family. Hence, it is only through bearing children that a woman gains status and power in such a societal setting. Such a need to entrench herself in the new familial setting does contribute to high fertility. Thus Dyson and Moore (1983) are of the view that if women are self supporting through employment and remain economically

independent from their husbands within the household, the need to propagate in order to strengthen their stand will be less pressing or minimal.

Another apt example that may be cited as having a functional relationship relevant to gender inequality especially in the developing countries is the degree to which women get saddled with arduous household chores. In such societies the ideal woman worthy of praise is deemed to be one who retires for the day after the rest of the household and wakes up before them all. Implicit in this behaviour is the gender inequality of going to bed after and rising before the husband. Oppong (1983:554) contends that " as long as older children provide valued domestic services, women as housewives will want more children, particularly when household labour is arduous and time consuming." Therefore, in situations where the gender inequality results in women being subjected to hard work coupled with the strong prospect of children providing future economic security, the chances to limit fertility again become minimal. Studies by Cain (1978, 1980) and by Cain, Khanam and Nahar (1979) reveal that when women's status within the household is such that they are heavily dependent on the male family members within it; children tend to have added value as a form of risk insurance. They further emphasize the fact that it is an outcome of constraints placed on women from seeking employment due to the practice of the system of Purdah prevalent especially in the Indian sub-continent. It requires that women be in seclusion, thereby preventing them from getting into the wider world for employment. High fertility thus becomes an outcome of women playing a more and more subservient role within the household with very limited prospects of dealing and interacting with those outside it, in the community at large.

They live in isolation deprived of the stimulation and self development which

one would derive from social exchange. To quote Sundaram and Leng (1985:7) " Being confined to the petty and mundane details of home-making greatly limits their capacity for social involvements and severely curtails the development of their full human potential. The net result is their low social status."

Mason (1987:732) feels that women being powerless could as well result in the converse situation where " their voice in fertility decisions is unlikely to be heard, should their husbands or in-laws decide to restrict child bearing, it is hard to imagine they would be able to continue to bear children to enhance their personal economic security." On the other hand, if male dominance leading to their desire for sons could contribute to high fertility, then they have to face strong pro-natalist pressures and have no freedom to determine their fertility performance. This is evident in societies especially in India, where the prime task of the woman is to produce male heirs to the family. This sex preference gives rise to higher fertility. In such situations, the larger interest of the family gains precedence over the wife's own wishes and intentions, and unfortunately weakens her health through continuous child bearing. This may not be the case amongst those who are able to avail themselves of the facility for scanning now available in India for scanning which makes couples aware of the sex of the child and opt to abort the foetus at an early stage of gestation. However, the only redeeming factor in situations of high fertility is that the woman would feel secure with her own issues around as they would provide a sense of security and stability for her future. Therefore it tends to satisfy if not answer the needs and desires of both the husband and wife; the former by providing patrilineal descent, central to the prevalent social organization, and the latter by promising a source of future security because the son remains in the household on marrying and provides the necessary support for

the family. In contrast, daughters move away at marriage to lean on others for support and care, and thus parents cannot expect support from their daughters after marriage.

Thus, gender inequality may result in either high or low fertility situations. Basically, gender inequality results in women being placed in a helpless state, unable to determine their child bearing pattern or the family size they desire.

4.1.5 Women's Autonomy, Child Survival & Fertility

Arising from the above is the issue of female autonomy and the resultant egalitarian outlook within the household that would help in the decision-making process relevant to fertility. Mason (1987:736) states that " female autonomy may also influence contraceptive use by determining the egalitarianism of the husband-wife relationship. Equality of spouses is supposedly linked with the likelihood of their communicating about fertility control, which in turn is argued to influence the use of contraception or at least the effectiveness of its use." Therefore, it is believed that when a more egalitarian outlook prevails between gender, greater concern would be shown to the wife's health in arriving at decisions on fertility. This would be unlikely in a situation where the authority to decide lies with the male whose decision would centre around only the benefits that would accrue by additions to the family. Thus all evidence points towards establishing that the seclusion of women contributes to their retreating to a powerless and insecure position resulting in a desire to strengthen their foothold within the familial setting through higher fertility performance.

One of the basic linkages deemed to have existed between mortality and fertility is that when mortality was high fertility also tended to be high. This was

apparently the pattern that persisted in most populations at the initial stage of the demographic transition process. What is mainly behind this behavioural pattern, especially in the developing countries, in respect of fertility is that of insurance births, ie. when mortality was high and the resultant survivorship rates were low, fertility performance had to be high so as to achieve the desired family size. When mortality began to decline, the process had greater effect in the developing countries than in the developed countries as the pace of decline was faster. This was because, unlike in the developed world, it occurred independent of any conspicuous economic development and was determined primarily by exogenous factors, an outcome of imported technology associated essentially with the provision of better health and medical care which altered the hitherto prevalent morbidity and mortality patterns of countries. Having accounted for the factors contributing to the transformation at the macro-level, it is necessary that the ideal conditions also prevailed at the micro family level. In this regard, it is necessary to sharpen the focus on women who are mothers, and their position *vis-a-vis* that of men needs to be reckoned with.

It has been contended that the level of autonomy and the economic independence that women enjoy contributes to child survival (Dyson and Moore, 1983; Caldwell, 1983). Granted the above conditions women have greater freedom and above all if they are educated have greater ability to handle a situation as they possess the " know how " in respect of nutrition, medical care and above all preventive immunization. Being accorded the climate for economic independence helps them to procure the essentials for the child, and given the freedom to decide for themselves without consulting their husbands or other members of the household ensures prompt attention to the child which would in turn contribute to greater

survival. Caldwell (1986) in his study on " Routes to low mortality in poor countries " analysed data from 99 developing countries, and states that the populations which lagged behind the desired level of mortality decline were predominantly in Muslim lands. This he attributes to the seclusion of women that is consistent amongst Muslim populations. However, Caldwell (1986:175) notes " these mortality differences are not necessarily inherent in the religions nor immutable. The central aspect of the relationship between Islam and mortality level is undoubtedly the separate and distinctive position of women operating partly through their access to education but also in many other ways." Adhering strictly to the tenets laid down in the Holy Koran, the men have to protect the women folk, and hence should keep them secluded. This outlook leads to low levels of female schooling and limited or no access to employment, which keeps them away from mingling with those outside the household. Furthermore, Caldwell cited Raphael Patai (1971) as saying " in the traditional Muslim view the education of girls was considered not merely unnecessary and superfluous but positvely wrong," and in citing Lipsky (1959) he indicates that " public opinion has never really sanctioned formal edcuation for girls either in or out of the house." With such emphatic viewpoints being voiced in respect of education for women, Caldwell (1979 and 1986) in reviewing several studies found a consistently inverse relationship between education and child mortality. Thus the positive relationship between female schooling, child nutrition and their survival has been well documented if not established.

Dyson and Moore (1983) re-inforced evidence in this direction from their study in India which corroborates the above stand by maintaining a dichotomy in the societal settings between northern states on the one hand, and the southern and eastern states on the other, reflecting two different demographic regimes. The

north they claim is a more secluded society than the south and the east, and has both higher mortality and fertility levels than in southern and eastern India. Furthermore the kinship structure in the north tends to isolate women from their natal kin and thereby make them relatively powerless. They observe the practice of Purdah; the extent of female illiteracy coupled with the absence of female employment and the strength of son preference are all especially marked in the north. Dyson and Moore's state level data indicate that there is greater survival in the southern states where female autonomy and the associated economic independence are higher than in the northern states. This they are able to establish independently of the dichotomy in culture between the north and the south, and of the fact of the overriding factor being the prevalent negative relationship between childhood mortality on the one hand and women's employment and literacy on the other.

All in all, the point at issue is the bearing it all has on the fertility performance of a population. In the light of the existing, well established relationship that it is the lowering of mortality that acts as a precursor to lowering fertility, one expects high fertility amongst the population in the above societal setting. The upshot is that when women have their autonomy intact in their familial setting and are free from seclusion, thereby leading them into education and gainful employment, the child survival should be higher. Such sequential progress would have its repercussions in lowering their fertility performance. The converse would tend to operate when women are shrouded by a veil of seclusion, and all that follows would not be in the interests of child survival resulting in a high mortality and fertility situation. Hence the position women hold in the household and in society becomes crucial in determining mortality levels, a conditional route to fertility levels.

4.1.6 Women's Autonomy & the Fertility Lowering Process

Studies have elucidated many possible relationships between women's autonomy and the core variables in demography. Since the area now under review is confined to fertility, the discussion basically focuses, on that variable. Women's autonomy has therefore to be regarded as an intervening variable determined by other changing social or economic factors which set in motion the fertility transition process. In this regard, it is said that those who marry early enjoy less autonomy as they lack the means to survive without marriage. Hence female age at marriage and autonomy are positively correlated, and so the autonomy of women tends to get routed through age at marriage. Consequently if female autonomy proves effective enough for them to avoid early marriage, it would contribute to lowering their fertility performance. Pressure for early marriage could only be weakened if women held educational achievements that enabled them to engage in gainful employment in the modern sector. Therefore, such autonomy capable of postponing marriage is achieved only on women fulfilling certain conditions which help them into viable alternatives for early marriage. The primary factor in this chain is education, as better education for women confers upon them a status arising out of their capabilities leading to autonomy, which is derived through gaining economic independence achieved by playing productive roles in employment. This implies that fertility is determined by the opportunity cost factor involved in bringing up children. Moreover, education would equip women adequately to be in a position to discuss and establish dialogue with their male counterparts on matters relevant to reproduction and contraception so as to arrive at the desired family size. This again is autonomy derived from the same source, the wife's schooling, and hence cannot be regarded as a quality inherent in women. Therefore, with the kind of

educational attainments documented in respect of the Sri Lankan women especially after the 1940's, it could be implied that they have acquired the necessary qualities that equip them to gain the desired autonomy to help lower fertility.

These are some generalizations that exist in the relationships between female autonomy and fertility, and it is best to focus attention on the kind of outlook that prevails in Third World situations like in Sri Lanka. If female participation in the labour force is a kind of mechanism that contributes to bringing about a transition to lower fertility, it operates differently from what is hitherto accepted: this view regards women in employment as having freedom from control by others within the family or household especially the husband and his representatives and as thus deriving autonomy which determines lower fertility. It is not the transformation in this direction that matters, because even in the event of women's active participation in economic production, enhancing the household income, it does not automatically confer on her domestic autonomy. This is because there is the tradition of male dominance whereby wives more or less turn over all their wages to the husband who has central control over the household resources. This is commonly referred to as patriarchy, which reduces women to be dependent and powerless in every respect within the household. Therefore, it is a situation, where despite her earning, her autonomy may be minimal. Greenhalgh (1985:266) suggests that a variety of social institutions may keep money-earning women powerless and unable to take decisions on their own. His work provides evidence for the fact that " the roots of women's subordination lay first and foremost in the family system."

In this connection, whether women's employment contributes to their autonomy or not could be disregarded as it is not necessarily the route to the process of transformation; rather the transformation hinges on economic factors. Hence, what

is crucial in this respect is the fact that once women are liberated and freed from seclusion they derive the desired autonomy to enable them to engage in gainful employment away from home. It is this component in the transformation process that would lower fertility as the opportunity cost of children becomes potentially higher. It is thus a vicious circle, as the mother setting out to earn has economic motives. Having done so, whether she is economically independent or not in the household is immaterial as it plays a more passive function in the whole process. The more decisive factor inhibiting fertility is not her autonomy *per se* but the difficulties encountered in bringing up children on being placed in the new situation where she steps out for employment.

4.2 The Sri Lankan Scene

4.2.1 The Traditional Setting

The traditional Sri Lankan society was highly caste oriented and patriarchal in nature, the former trait contributing to a sectarian outlook and the latter making it a male dominated society with women playing subordinate functions. The hierarchical caste system comprised the 'high' and the 'low' castes, a classification which had occupation as the basis. Those engaged in cultivation, i.e. the farmers, belonged to the highest rank and those engaged in occupations such as toddy tapping (the 'climbers') and the drummers formed the lowest stratum. In this setting the women were absolutely powerless, their voices unheard and their roles confined to the home. Above all, the ethical code spelt out for the ideal woman by the two major ethnic groups who belong to the two dominant religions of the land, Hinduism and Buddhism, is one that demands the woman to be unfailing in her domestic duties. In this regard, it is germane to refer to the fact that the

Hindus expect the woman to regard her husband as the 'Visible God'. With the image of the husband being put on a pedestal on a par with the gods, she is personified as his virtual devotee, a position never to be deemed as one that could contribute to dialogue leading to decision making regarding the family. It is only when women form part of the social, economic cultural and political processes in society that they contribute to the decision-making process which may determine among others, the number of children they would desire to have in the family.

4.2.2 The Changing Scene and its Aftermath

Sri Lanka came under foreign domination for nearly four and a half centuries, the Portuguese, the Dutch and the British each controlled the island for a century and a half from 1505 to 1948. This exposure to foreign rule was the beginning of the process of transforming the Sri Lankan society which was deeply entrenched in traditionalism. Changes were made possible by the new forms of government, the legal system and the economic activities that came to be introduced by the rulers. However, it was not until the coming of the British in the late eighteenth century that women began to contribute by participating in economic activities. The introduction of the plantations brought forth a change that was to have long-lasting effects on the life and style of Sri Lankan society. " The plantation form of economic organization which began with the introduction of coffee, to be followed later by tea, rubber and coconut kept rapidly developing during the British occupation. It was the expansion of plantation capitalism that led to the rise of a Sri Lankan bourgeoisie and working class by the latter decades of the nineteenth century" (Jayawardena, 1986: 116). There was thus filtering into society a different brand and flavour in its setting, varying very much from the prevalent tiers in society determined hitherto by the caste structure of the population. Therefore the

changes that were to surface thereafter were being spearheaded by groups which had a new and different identity, calling themselves either the bourgeoisie or the working class.

The introduction of the plantations brought forth a transformation which resulted in production units of large dimensions. In order to encourage this move, crown land was sold cheaply to encourage large holdings. Above all, it meant the birth of commercialism through agriculture, necessitating the employment of much unskilled labour. Because of the labour shortage in the country, coolie labour was brought in from South India under the indenture contracts, to work on the plantations. They were drawn from the lowest rank in society and formed a poverty stricken and illiterate lot. In addition to the men, the women who came along were enrolled into gainful employment on the plantations. This was a notable change from the previous pattern which kept women out of the arena of employment. Nevertheless, the women in Sri Lanka are unaffected by certain stringent societal norms that the women in the sub-continent are bound by, for example those associated with Purdah, child marriage and a taboo on remarriage of widows. Alongside these is the rather dreadful practice of suttee, a requirement for a woman to submit herself to the funeral pyre of the husband in the event of his death preceding hers.

4.2.3 The Clamour by Women: its Resultant Effects

The voice of women clamouring for equal rights with men surfaced first in the nineteenth century and continued into the early twentieth century. It was the growth of educational opportunities for girls that made advances in this direction possible. However, education in pre-colonial Sri Lanka was largely the function of monasteries which were open mainly for men. The Dutch who ruled from 1656

to 1796 established parish schools which were part of their evangelical functions, and education was used as a means to an end, the end being conversion to their faith. Most of these institutions were co-educational and any scholarly activities the women engaged in the late eighteenth century, they owed to them.

The British who took over the country from the Dutch in 1796 continued to maintain the same pattern of co-educational parish schools and in the early years of the nineteenth century founded a girls school in Colombo, the capital of the country. While under British rule, the main co-educational programmes were carried out by the Christian missionaries who started their work during the first quarter of the nineteenth century. They first established schools mainly for the boys who were converts to their respective brands of Christianity. However, the affiliation of these converts to the new faith was ephemeral in nature as they failed to adhere to it for long, and tended to revert back to their religion of birth on marrying. To circumvent this problem of converts falling back on their original faith, they had to establish sister schools to each of the boys schools with the sole intention of providing Christian wives to those coming out of the boys schools. Nevertheless, it assured the girls of quality education and a future that they could look forward to.

This resulted in girls gradually gaining ground in education, and thereby the foundation was being laid for a transformation which was to take effect in the decades to follow. By 1868, they had established twelve Sinhalese or Tamil schools for girls known as vernacular schools. The Morgan report of 1869 which made recommendations on educational policy, proposed that girls schools be opened wherever possible (Jayawardena, 1986:119). When the country was under the British, the influence of the girls high school movement in Britain came to be felt in the

colony as well during the second half of the nineteenth century. As for the task of implementing it, the government preferred to leave it to the missionaries with the provision of state assistance. Within this framework of schools that began to function, there was a major breakthrough in secondary education which took place in the late nineteenth century with the advent of the Cambridge examinations. With its introduction into the school system, the demand for a Cambridge certificate was found to be steadily on the ascent.

These developments led to a change in aspirations amongst the girls who were going through schooling. Their prospects of playing roles outside the home were becoming brighter and promising. Furthermore, with the opening of the first English Training College in 1902, opportunities sprung up in the teaching profession as they began enrolling women by the year 1908. This should be regarded as the beginning that led to women manning the greater proportion of this profession today. Much greater opportunities came women's way when the Cambridge examinations were thrown open to them as it led them into coveted professions like medicine. It meant that a profession much adored in the country had now come to be within their easy reach. Thus a stage began to be set for freeing women from the traditional roles they were hitherto accustomed to playing within the limits of the household. It was the exposure to education that began the process of emancipation and made women realize the restraints laid down on them by traditionalism. " With the expansion of education for women and the emergence of a group of professional middle-class women, especially teachers and doctors, political consciousness among women grew in the first decades of the twentieth century, a few joining nationalist organizations " (Jayawardena, 1986:127).

Following these developments, others occurred at the macro-level. The high-

point of it all was in 1931 when the Donoughmore Commission, which was appointed in 1927 by the Secretary of State for the Colonies in the British government, granted universal franchise to every citizen above the age of 21 years. In cognizance of the fact that women were gradually coming into the limelight of political activities, the commissioners recommended that the right of franchise be extended to women as well. This was indeed a remarkable step forward, and a milestone for the progress that women were actively seeking. The significance of this move is seen when viewed with the background of the country being still a colony under the British and a right that the women of Sri Lanka had succeeded in achieving only three years after it was extended to the women of Great Britain. In this regard, it needs to be highlighted that Sri Lanka was one of the first countries of Asia and Africa to have achieved this coveted entitlement of women's suffrage.

Once franchise was granted in 1931 to the women of Sri Lanka, there were already amongst the population women who were knowledgeable and competent to enter the echelons of the legislature. The outcome was that the women of Sri Lanka began to play an active role in exercising political power, with two women being among those elected to sit in the State Council of the country during the 1931-36 period. These developments amongst women were modest achievements when compared to what followed thereafter in Sri Lanka with education coming within the right of all and ceasing to be restricted to the privileged. This has had its desired effects on the entire transformation process that the society underwent. Findlay and Findlay (1987:22) state " the introduction of mass education had undoubtedly been one of the most important determinants of the timing of fertility decline in less developed countries. This is true because the educational level attained by the female is an important determinant of the attitudes of fertility

control and above all the education of children has been critical in altering the social and economic organization of the family by transforming them from the role of *ad hoc* producers to that of consumers, laying the foundation for a better life within the household economy."

Improvements in educational attainments and the work status of women are two of the most significant changes that have occurred in Sri Lanka since the 1940s. The outstanding feature is that the rate of change has been far more striking for females than for males. Women play a vital role in the development process, both at the macro level of nation building and at the micro level of community development. It is often said that to educate a man is to educate an individual and to educate a women is to educate a family, meaning thereby that it is the woman as a mother who disseminates knowledge and communicates freely with the children and the other members of the household. When women are not adequately educated, they depend on others to make decisions and are not mentally prepared to innovate. Any family planning programme becomes ineffective, as these women will have very limited or no access to the message of family planning that is being disseminated through the media, especially those presented and circulated in print. This leads us into accepting that fertility transition has necessarily to be identified and associated with the changing roles of women in society. In the Sri Lankan context, this was made possible by many factors, but as documented earlier in this study, an improvement in the educational attainment of women played a significant role in achieving it. With social developemnt given pride of place in the country during the post-war period, education got a fillip with the introduction of free education in the early 1940s. This meant, there was equal access to the facility of learning to both male and female alike at the primary, secondary and at the

tertiary levels. The resultant impact on the educational system was a notable increase in the co-educational schools which increased from 77.5 percent of the total number of schools in 1945 to 94.1 percent in 1971 resulting in an expansion in the enrolment of female students. This minimised if not came close to eliminating the hitherto prevalent gender disparities and was reflected in the concomitant rise in the proportion of female enrolment into schools from 42.4 percent in 1946 to 49.7 percent in 1982. These developments began to bring about notable changes that became evident in the age specific school participation rates[3] in the country. By 1971, the participation rates for female students aged 10-14 was 72.0 percent, with the males representing a lesser 70.5 percent rate. Amongst the 15-19 age group the females showed a 17.4 percent participation rate with the males at only 15.2 percent (Population of Sri Lanka, 1976:215). Educational statistics provided by the Ministry of Education and Higher Education show that the school enrolment rates for the 15-19 age group in 1991 was 20.6 for females and 18.9 for males. The 1991 figures also record higher enrolment ratios for females from age 11 upwards.

Table: 4.1 reveals the percentage of girls in schools by grades. The proportion of girls in grades 11-12 for the years 1970 and 1982 exceeds that of boys, with the girls representing 50.9 percent and 59.2 percent respectively. This represents an increase of 16.3 percent during the aforesaid period. Again the proportion of girls in the 6-12 grades in 1982 exceeds that of boys with the girls accounting for 51.9 percent of the total. The 1991 figures also show that the girls outnumber the boys in the grades 6-10, 11-12 and 6-12.

The policies outlined in the 1940s to remove sex disparities in education by

[3] The age specific school participation rate is defined as the number of school going children in a particular age group per 100 of the total population in that age group.

Table 4.1: Percentage girls in Sri Lankan schools by grades, Sri Lanka, 1963-1991.

Grades	1963	1970	1982	1991
1-5	45.5	46.5	48.2	48.2
6-10	47.1	49.8	50.8	50.2
11-12	47.9	50.9	59.2	54.3
6-12	47.2	49.8	51.9	51.1
1-12	46.0	48.1	49.7	49.6

Source: Ministry of Education Administration Report, 1963, School Census, 1970 & 1982, Figures for 1991 computed from Table: 22 of Educational Statistics of Sri Lanka, Ministry of Education and Higher Education, Colombo: 1992.

providing equal educational opportunities for all began to reflect in the enrolment trends over the years. Table 4.2 shows the age-specific enrolment rates during the 1971-1991 period. Although the gap between girls and boys in the number enrolled has been narrow, it is interesting to note that by 1981 the female enrolment had outnumbered the males. The enrolment for the 5-14 age group had a negligible difference of only 0.1 percent between the sexes. In the 15-19 age group the female enrolment showed an excess of 12.9 percentage points over the males. This trend where the girls outnumber the boys persists in the 20-24 age group as well, but with a lower percentage point of 0.2 only. In 1991, the 15-19 age group of girls again outnumber the boys by a lesser 5.9 percentage points and the girls in the 20-22 age group exceed the boys by 1.8 percentage points. However, the writer is inclined to believe that the rates and the differences ought to be more striking in bringing to light the female attendance over the years but may be clouded because

Figure 4.1 Rise in Female Enrolment to Universities

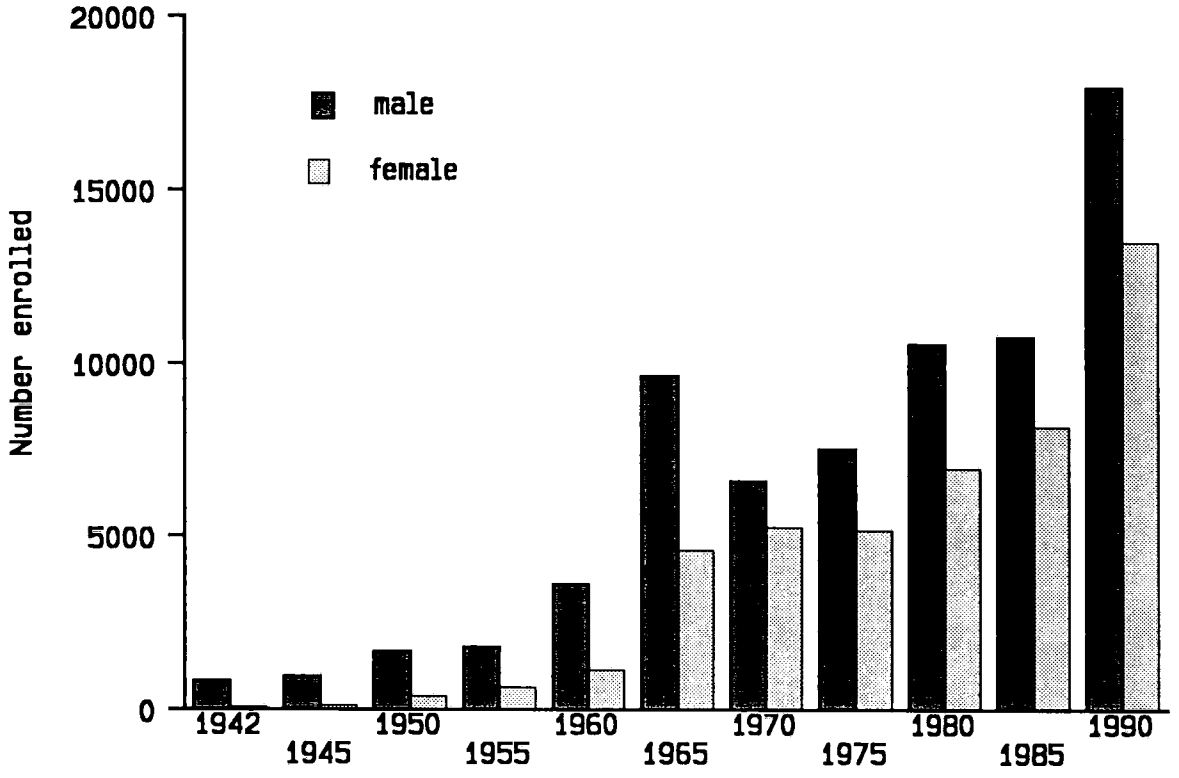


Table 4.2: Percentage of school enrolment in Sri Lanka by age and sex, 1971-1991

Age Group	1971			1981			1991		
	M	F	Difference	M	F	Difference	M	F	Difference
5-14	66.8	63.7	3.1	83.8	83.7	0.1	88.3	87.4	0.9
15-19	36.5	32.4	4.1	29.0	41.9	-12.9	36.7	42.6	-5.9
20-24	9.4	7.8	1.6	6.1	6.3	-0.2	3.1	4.9	-1.8

(N.B. 1991 figures show only the 20-22 age group.)

Source: Census of Population and Housing, 1981, General Report, Dept. of Census & Statistics, Colombo, 1986 for the 1971 & 1981 figures, the 1991 figures were computed from Table: 21 of Educational Statistics of Sri Lanka, Ministry of Education & Higher Education, Colombo: 1992.

the 1991 figures shown in Tables 4.1 and 4.2 are those which exclude 408 schools in the Northern and Eastern provinces where the political disturbances and the unsettled situation precluded the collation of data. Hence the true picture of female student enrolment and participation fails to unravel. A moderate progress between 1981-1991 may be deemed to have been caused by the non-availability of data of the total school-going population in the country.

Thus the overall pattern has been one where the 'women to be' were benefitting by an educational programme that was meant to reach all, irrespective of their economic background and without any bias towards the sexes. These trends recorded at the secondary school level soon began to echo in the enrolment rates of the universities, where a progressive increase in female student enrolment was observed

(Fig.4.1). When the University of Ceylon was established in 1942, women formed only 10.1 percent of the student population whereas by 1970 the proportions rose to 44.4 percent (Table: 4.3).

Table 4.3: Student enrolment in Universities by sex, Sri Lanka, 1942-1990.

Year	Total	Male	Female	% Female
1942	904	813	91	10.1
1945	1,065	932	133	12.5
1950	2,036	1,655	381	18.7
1955	2,431	1,781	650	26.7
1960	4,723	3,587	1,136	24.1
1965	14,210	9,631	4,579	32.2
1970	11,813	6,570	5,243	44.4
1975	12,648	7,496	5,152	40.7
1980	17,494	10,544	6,950	39.7
1984	18,962	10,689	8,273	43.6
1985	18,913	10,753	8,160	43.1
1986	19,966	11,390	8,576	43.0
1987	24,640	14,118	10,522	42.7
1988	29,471	16,915	12,556	42.6
1989	28,260	16,171	12,089	42.8
1990	31,447	17,926	13,521	43.0

Source: Report of the National Council of Higher Education, University of Sri Lanka and Statistical Handbook, 1983, 1986, 1989, 1990, Statistics on Higher Education in Sri Lanka, University Grants Commission, Colombo.

The percentage of female enrolment in the universities appears to have fluctuated thereafter and stood at 43.0 percent in 1988. The notable kink in 1960 indicating an enrolment rate of 24.1 percent after recording a 26.7 percent enrolment rate in 1955 is attributable to the creation of two Pirivena Universities which were meant to be seats of higher learning for the Buddhist clergy. These were however later transformed into regular universities. Jayawardena and Jayaweera (1985) are inclined to believe that the decline in the proportion of female enrolment during the 1970s is due to the creation of the male-dominated engineering university in the outskirts of the city of Colombo, now named as the University of Moratuwa. However, the persistent political unrest after 1983 disrupted the normal functioning of the university examinations as they remained closed for long periods of time. Hence the sudden increase in enrolments especially after 1987 is due to the inclusion of the final years of the disrupted 1986-87 academic year who could not have completed their courses and were added to subsequent admissions. Similarly, the 1987-88 and the 1988-89 enrolments came to be unduly high on account of again the final years not being cleared by the universities due to their closure and hence gives a cumulative picture in admissions. A closer picture unfurls on looking at Table 4.4, which shows only undergraduate entry yearly. The trend is one where women show entry levels always above 40 per cent. Recent figures indicate that female entry had been on the rise and now accounts for 47.8 per cent of the total admissions to the universities.

Table 4.5 shows the proportion of women students qualifying for entry to universities by subject stream during the 1981-91 period. Except for the physical sciences, women seem to outnumber the men in all other subject streams. In Arts, the proportion of women have been consistently the highest, with proportions as

Table 4.4: Undergraduate entrants to Universities, Sri Lanka, 1981-1991.

Year	Total	Male	Female	% Female
1981/82	5064	2897	2167	42.8
1982/83	5111	2922	2189	42.8
1983/84	5233	3027	2206	42.2
1984/85	5145	2921	2224	43.2
1985/86	5036	2805	2231	44.3
1986/87	4991	2737	2254	45.2
1987/88	5558	3203	2355	42.4
1988/89	5431	3156	2275	41.9
1989/90	6077	3398	2679	44.1
1990/91	7235	3778	3457	47.8

Source: Statistical Handbooks, 1983, 1986, 1989, 1990, Statistics on Higher Education in Sri Lanka, University Grants Commission, Colombo.

high as 70 per cent in 1990. In Biological Science which includes students aspiring for medical studies, the women have again outnumbered the men. Commerce and Management Studies, which is relatively a recent subject stream leading to professional management programme of studies, also has greater proportions of women qualifying for entry. Only the Physical Sciences which lead to studies including Engineering, Architecture, Quantity Surveying and Pure Science continue to remain a male bastion. Still more remarkable is that the total proportion of women qualifying outnumbered that of men all through the 1981-91 decade. Such impressive qualifying rates provide convincing evidence of the degree of women's involvement in higher education. It is not only an index of the progress that is

being made by women but also of the events to follow. It reveals that the transformation now in force in Sri Lanka in respect of women has, far from reaching the stage of narrowing or removing any prevalent gender disparities, shows that women are taking greater strides in both general and higher education compared to men.

Table 4.5: Proportion of women qualifying for entry to Universities by subject stream, Sri Lanka, 1981-1990.

Subject Stream	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Arts	59.7	61.2	62.8	64.9	63.5	64.8	65.3	66.6	67.0	70.7
Commerce & Management Studies	53.6	50.5	54.7	51.5	51.0	54.6	55.8	54.6	52.7	56.3
Physical Science	24.3	25.1	20.2	21.7	21.5	16.7	22.3	21.1	23.0	20.9
Biological Science	55.3	55.8	55.0	57.2	55.9	53.9	57.3	56.7	55.5	54.8
Total	53.2	52.6	54.9	56.3	55.2	56.0	56.4	56.8	56.4	59.4

Source: Statistical Handbooks, 1983, 1986, 1989, 1990, Statistics on Higher Education in Sri Lanka, University Grants Commission, Colombo.

These trends provide ample evidence of the fact that the status of the sexes did not matter in respect of educational achievements and stood more in favour of the women. Above all, the facility of free education removed all obstacles that prevailed at the micro family level for female education. It is because there was

no need anymore for the parents to show resistance to educating their daughters and only to value investing in educating their sons. Subsequently, there has been a significant improvement in the record of progress of women's education in Sri Lanka, the effect soon reflected in the literacy rates of women which virtually doubled between 1946 and 1981 from 43.8 percent to 83.2 percent recording a 90.0 percent rise over the years (Table 4.6). Coupled with this trend is the narrowing down in the differences in literacy rates between the sexes from 26.3 percent to an impressive 7.9 percent during the aforesaid period.

Table 4.6: Percentage of females and all island literates, Sri Lanka, 1881-1981.

Census Year	Females	All Island
1881	3.1	17.4
1891	5.3	21.7
1901	8.5	26.4
1911	12.5	31.0
1921	21.2	39.9
1946	43.8	57.8
1953	53.6	65.4
1963	67.5	77.1
1971	70.9	78.5
1981	83.2	87.2

Source: Derived from table 10.1 of Census of Population and Housing, 1981, General Report, Dept. of Census & Statistics, Colombo, 1986.

The age-specific literacy rates for males and females in 1971 and 1981 (Table

4.7) indicate that in all age groups there has been an improvement in female literacy, several cohorts of women showing much improved levels of literacy. With the likelihood of the literacy levels improving at adult ages during the intercensal period being minimal, the probable explanation is that of a more effective enumeration at the 1981 census bringing to light the higher literacy prevalent amongst the population. Some allowance should be made for errors in reporting, but they cannot be significant enough to change the prevalent trends in literacy. In this regard, it is necessary to add that these increases have not been affected by any definitional changes, as there has been consistency in this respect at the different censuses. The inquiry made was to ascertain whether a person could " read and write with understanding a short statement on everyday life in at least one language." It was applied in accordance with the United Nations recommendation for the 1980 round of population and housing censuses. This definition is that of the United Nations Educational Scientific and Cultural Organization (UNESCO) " Recommendation concerning the International Statistics " adapted by the general conference at its tenth session, in Paris on 8th December 1958.

The noteworthy feature of the trend in literacy is that there has been a greater magnitude of improvement in female literacy than in male literacy over the years. The most remarkable achievement is that in each age group, the percentage increase in literacy amongst women had far outstripped that of men. The improvement in the said direction during the years 1971-81 as revealed in Table 4.7 is all the more striking as it echoes the following:

(i) Female literacy *per se* had taken significant strides in all age groups during the intercensal period.

Table 4.7: Literacy rates of males and females aged 10 Years and over by age group, Sri Lanka, 1971 and 1981.

Age Group	1971		1981		Percentage Increase 1971-81	
	Male	Female	Male	Female	Male	Female
10-14	83.7	82.3	90.0	89.6	7.5	8.9
15-19	88.3	85.1	90.8	90.0	2.8	5.8
20-24	91.0	83.1	93.1	90.4	2.3	8.8
25-29	91.0	78.3	94.2	90.2	3.5	15.2
30-34	90.4	73.8	94.4	87.9	4.4	19.1
35-39	86.3	62.5	93.3	83.1	8.1	33.0
40-44	86.7	61.3	92.2	77.9	6.3	27.0
45-49	84.0	54.4	89.8	71.5	6.9	31.4
50-54	83.3	51.3	89.8	70.0	7.8	36.5
55-59	79.1	45.3	88.5	66.2	11.9	46.1
60-64	75.6	41.0	86.7	63.2	14.7	54.1
65-69	73.5	37.5	84.5	59.8	15.0	59.5
70-74	69.9	31.8	82.9	56.3	18.6	77.0
75 +	60.8	23.8	78.8	51.1	29.6	115.0

Source: Derived from table: 10.4, Census of Population Housing, 1981, General Report, Dept. of Census & Statistics, Colombo, 1986.

(ii) Consequently, the percentage increase of female literacy compared with that of male literacy increases during the period show the latter having heavily lagged behind the former in achievement.

(iii) The overall picture shows that women are taking greater strides in edu-

cation towards uplifting themselves resulting thereby in a converging trend in literacy between the sexes. This is revealed by the significant reductions in the difference in literacy levels between men and women from 33.5 percentage points at the turn of the century in 1901 to a mere 7.9 points as revealed by the 1981 census.

4.3 Women in Labour Force: An Agent in Fertility Transition

4.3.1 Changing Concepts, Definitions and the Labour Force

It is now seen that expansion in the provision of education has had greater effect on women than on men. Regular schooling leading women into higher education enabled them to participate in the labour force especially outside the agricultural and domestic service sectors, leading to higher ages at marriage and the resultant smaller families. Therefore the process of social change which drew women into the fold of education and thereby into labour force participation was deemed highly desirable in the context of their reduced fertility performance. Based on data reported in censuses, surveys and other studies, Agarwal (1972) observed nearly 20 years ago that a rise in age at marriage, a rise in educational level and decline in fertility go together with higher activity rates of women, especially in the age group 15-24.

Census data of Sri Lanka over the years reveal a trend towards a greater degree of female participation in the labour force (Table 4.8). Generally in interpreting census figures pertaining to labour force participation, one has to act with caution as negative variations in the rates do not necessarily represent a lower degree of participation but might reflect the outcome of changes in the definition of the economically active population. Such definitional changes no doubt pose difficulties

when comparisons are attempted with the view to looking at trends over time, for example the censuses prior to 1946 used the " earner " concept to enumerate the economically active population, while the censuses since 1946 used the " gainful worker " concept. The gap between these two concepts based on their definitions is too wide to make any meaningful comparisons. It is because by " earner " is meant the breadwinner on whom the dependants depend for their support, whereas by " gainful worker " is meant those who take part in the production of economic goods and services, including unpaid family workers in an economic enterprise as well as persons who work for pay or profit. On occasions, however, only those pursuing a gainful occupation are included in the working population. In this regard it needs to be mentioned that despite maintaining consistency from 1946 as to the use of the " gainful worker " concept to measure the economically active population, the definition of the said concept was given varied application from census to census, thereby posing problems when comparisons have to be made.

Under the circumstances, for purposes of analysis of trends it is necessary to have a closer look at these definitional changes and it was found that at the 1946 and 1953 censuses there was consistency maintained in the definition of the gainful worker concept whereby in addition to the employed, the unemployed persons with previous experience were enumerated as part of the gainfully employed. But in 1963, all those without employment, independent of their earlier history in employment were deemed to be unemployed and were enumerated only if they were in the process of actively seeking employment. In 1971, there was again a shade of variation whereby all those without employment were considered unemployed if they were available for work irrespective of whether they were actively seeking employment or not. The gainful worker or occupation concept with such shades

Table 4.8: Growth of population and labour force by sex, Sri Lanka, 1946-1981.

Census Year	Population	Percent Increase	Labour Force	Percent Change	Crude Activity Rate
1946	M 3,532,218	-	2,041,524	-	57.8
	F 3,125,121	-	570,000	-	18.2
1953	M 4,268,730	20.9	2,268,740	11.1	53.1
	F 3,829,165	22.5	724,609	27.1	18.9
1963	M 5,498,674	28.8	2,736,046	20.6	49.8
	F 5,083,390	32.8	715,661	-1.2	14.1
1971	M 6,531,361	18.9	3,312,469	21.0	50.7
	F 6,158,536	21.2	1,175,670	64.3	19.1
1981	M 7,568,253	15.9	3,736,188	12.8	49.4
	F 7,278,497	18.2	1,280,385	8.9	17.6

1. Labour Force denotes population aged 10 years and over.
2. The Crude Activity Rate represents the labour force as a percentage of the total population.

Source: 1946-63 figures derived from UN, ESCAP, Bangkok, Population of Sri Lanka, 1976, table 189, the 1971-81 figures derived from Dept. of Census & Statistics, Census of Population and Housing, Sri Lanka, 1981, General Report, table 11.1.

of variations in the definition was adopted up to 1971 but at the 1981 census an important change came into effect whereby the " labour force " concept came to be adopted for the first time. This concept is based on the individual activities during

a brief time interval, either a week or a month. The labour force concept however tends to be an inadequate measure to reflect the labour force participation rates for a country like Sri Lanka which is predominantly agricultural in nature and hence fails to be adequately sensitive to the seasonal variations in the type of employment opportunity which the economy is able to offer, for example those who are in active farming activities may be excluded from being counted as economically active if they do not engage in any farm work during the reference period stipulated by the census exercise. Hence it turns out to be an inadequate measure of the degree of participation into the labour force in a developing context as in Sri Lanka where the predominantly agricultural population is engaged only in seasonal employment.

The above account of the changes in definition adopted at the censuses in the past proves useful in interpreting trends in the female labour force in Sri Lanka as revealed in Table 4.8. Census figures indicate that the rate of increase of the total female population in all intercensal periods is higher than that of the male population, and the rate of increase in the female economically active population has been higher than the rate of increase of the female population. Thus while the economically active male population increased by 83.0 per cent between 1946 and 1981, the female component increased by 125.0 percent during the aforesaid period. As a result the proportion of females in the total economically active population which was 21.8 percent in 1946 rose to 26.2 percent in 1971 but declined slightly to 25.5 percent in 1981. The entry of such a significant number of females into the labour force contributed to the rapid growth of the economically active population in general. However, both the crude and the refined activity rates dropped during the 1971-81 intercensal period, the former from 19.1 percent to 17.6 percent and the latter from 33.2 percent to 29.1 percent (Tables 4.8 and 4.9). These declines

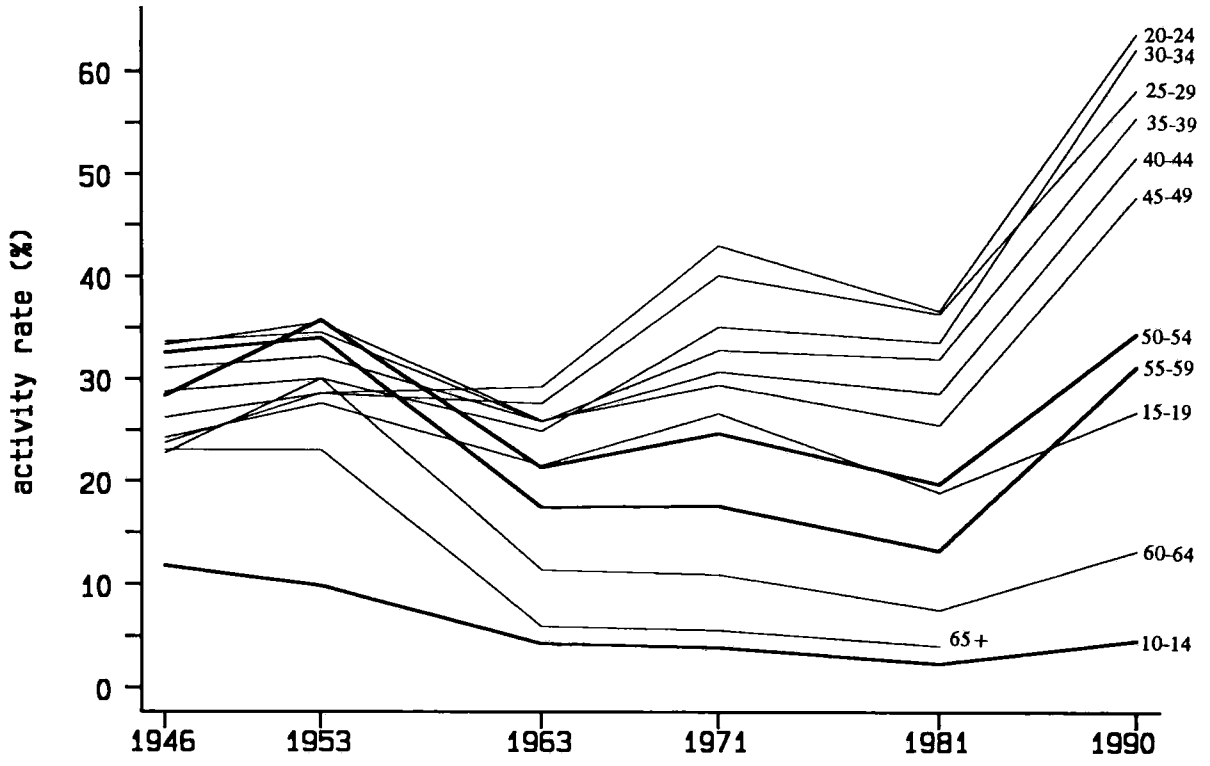


Figure 4.2 Female Age-specific Activity Rates 1946-90

essentially reflect the change from the gainful worker concept to that of the labour force concept that was applied at the 1981 census, and hence might be regarded as spurious in nature.

Table 4.10 which shows the percentage of age specific female participation rates in the census years 1946-81, indicates that there is an overall trend towards a greater female participation in the labour force over the years. Any kinks in the trend revealed in the table may be attributed to the definitional changes mentioned earlier. Granting, that consistency was maintained during 1946-1953, the figures in Table 4.10 indicate an increase in almost all the age groups. The increase may also be attributed to the fact that unpaid family workers, 56 percent of whom were females, were included in the 1953 enumeration of the gainfully occupied population but were excluded at the 1946 enumerations.

The age group proportions in 1963 show a generally declining trend over the 1953 proportions and may be regarded as an outcome of a change in definition which might have decimated the number, as at the 1963 census exercise, it was all those without employment whether previously employed or not who were considered unemployed and were enumerated only if they were actively seeking employment. It could be contended that the " active seeker " aspect might have brought the proportions down in 1963 and the figures need to be regarded again as of somewhat spurious in nature (Fig.4.2). Furthermore, those lower proportions needs to be attributed to the under estimation of the economically active population, particularly that of females in the 1963 census (Population of Sri Lanka 1976:258).

Again in 1971, there was a change whereby all those without employment were

Table 4.9: Growth of the population aged 15-59 and the economically active population aged 15-49 by sex, Sri Lanka, 1946-81.

Census Year	AGES 15-59				
	Population	Percent Increase	Labour Force	Percent Increase	Refined Activity Rate
1946	M 2,072,390	-	1,822,396	-	87.9
	F 1,746,559	-	486,298	-	27.8
1953	M 2,398,773	15.7	2,044,820	12.2	85.2
	F 2,046,924	17.2	628,804	29.3	30.7
1963	M 2,889,200	20.4	2,441,931	19.4	84.5
	F 2,612,973	27.7	657,800	4.6	25.2
1971	M 3,575,086	23.7	3,038,885	24.4	85.0
	F 3,363,494	28.7	1,117,627	69.9	33.2
1981	M 4,383,329	22.6	3,461,775	13.9	79.0
	F 4,255,015	26.5	1,236,265	10.6	29.1

1. Labour Force denotes Economically Active Population Aged 15-59

2. Refined Activity Rate represents the proportion of the Economically Active Population aged 15-59 amongst the total population aged 15-59.

Source: 1946-63 figures derived from UN, ESCAP, Bangkok, Population of Sri Lanka, 1976, table: 190, the 1971-81 figures derived from Dept. of Census & Statistics, Census of Population and Housing, Sri Lanka, 1981, General Report, table 11.2

considered unemployed if they were available for work immaterial of whether they

Table 4.10: Female age-specific activity rate, Sri Lanka, 1946-90.

Age Group	1946	1953	1963	1971	1981	1990
10-14	11.8	9.9	4.3	3.9	2.4	4.6
15-19	24.3	27.7	21.6	26.7	19.0	26.9
20-24	23.8	28.7	29.3	43.1	36.8	63.8
25-29	26.3	28.6	27.7	40.2	36.5	58.3
30-34	28.8	30.1	25.0	35.2	33.7	62.3
35-39	31.1	32.3	25.9	32.9	32.1	55.6
40-44	33.7	34.6	25.9	30.8	28.7	51.8
45-49	33.4	35.6	26.0	29.5	25.6	47.9
50-54	28.4	35.8	21.4	24.7	19.8	34.5
55-59	32.6	34.1	17.5	17.6	13.3	31.3
60-64	22.8	30.1	11.4	11.0	7.6	13.3
65 +	23.1	23.1	6.0	5.6	4.1	-

Source: Population of Sri Lanka, ESCAP, Bangkok, 1976, table 191 for 1946-71 figures, 1981 figures computed from, Dept. of Census & Statistics, Census of Population and Housing, Sri Lanka, All Island Tables, Vol.2, part 1. 1990 Figures from ILO Year Book of Labour Statistics,1992.

were " active seekers " of employment or not. The introduction of this change would have undoubtedly made larger numbers to be enumerated as unemployed. This, coupled with the under-estimation of the economically active females at the 1963 census, would have raised the proportions of those participating, a fact clearly reflected in almost all the age groups in 1971.

Finally, the general decline in the proportions in 1981 is due to the switch from

the gainful worker to the labour force concept as outlined by the United Nations. The basic tenet of the labour force concept, which was adopted for the first time in a census exercise in Sri Lanka, was to measure individual activities during a brief time interval, usually a week or a month. This certainly would tend to decimate the proportions, as in a country like Sri Lanka where the greater proportion of those economically active are in agricultural employment which by its nature is seasonal in character and such variations in employment opportunities are bound to influence the numbers enumerated as economically active. The scenario changes significantly after 1981. Since the 1991 census of population was not taken in Sri Lanka, data on female activity rates provided by the ILO reveals a virtual surge in female activity rates thereafter (Fig.4.2).

Having discussed the data in the light of the definitional and conceptual variety that was applied to determine the economically active population over the decades, it might be inferred that the overall pattern that emerges is one that reflects a greater female participation in the labour force. Any visible kinks in the trends shown in the figures therefore may be attributed to the changes in definitions and concepts which were applied at the different censuses.

4.3.2 Shifting Trends in Women's Occupational Activity

Census data during the 1971 to 1981 period indicate a total increase of 21.7 percent in non-agricultural occupations with the percentage share rising from 51.2 percent to 55.2 percent in 1981. Table 4.11 shows the distribution of both the agricultural and non-agricultural occupations during the 1971 to 1981 intercensul period. The most striking aspect of the change has been that, while there was a decline of females engaged in agricultural occupations by 7.8 percent, their growth

Table 4.11: Employed persons in agriculture, non-agricultural and in non-agricultural white collar activities by sex, Sri Lanka, 1971-1981.

(in thousands)

Occupational Activity		1971		1981		1971-81	
		Number	Percent	Number	Percent	Number	% Change
Agricultural Occupations	T	1782.1	48.8	1847.0	44.8	64.9	3.6
	M	1287.2	45.3	1390.4	42.8	103.2	8.0
	F	495.0	61.1	456.6	52.4	-38.4	-7.8
Non-Agricultural Occupations	T	1866.7	51.2	2272.3	55.2	405.6	21.7
	M	1551.2	54.7	1858.0	57.2	306.8	19.8
	F	315.5	38.9	414.2	47.6	98.7	31.3
Non-Agricultural White Collar Workers	T	651.0	34.9	853.2	37.5	202.2	31.1
	M	540.0	34.8	651.6	35.1	111.6	20.7
	F	111.0	35.2	201.5	48.7	90.5	81.5

Source: Derived from Dept. of Census & Statistics, Census of Population and Housing, Sri Lanka, 1981, General Report, tables 12.1 and 12.2.

in non-agricultural employment far exceeded that of the males, with the females showing an increase of 31.3 percent and the males lagging far behind with only a 19.8 percent rise. Furthermore, amongst the non-agricultural occupations, the share of the white collar workers[4] among all non-agricultural workers increased from 34.9 percent in 1971 to 37.5 percent in 1981. Again, this transformation

[4] This category within the non-agricultural workers consists of the major groups, professional, technical and related workers, administrative and managerial, clerical and related and sales workers.

is particularly significant amongst the females with their share in white collar occupations rising from 35.2 percent in 1971 to 48.7 percent 1981. Moreover, there has almost been a doubling of numbers from 111,000 in 1971 to 201,500 in 1981 indicative of an impressive 81.5 percent rise over a decade. This has been a very significant change from the hitherto observed trends in the female workforce which would tend to reflect in their life styles.

Looking at the occupational profile from the point of view of employment of females in some of the major occupational groups, there are very interesting revelations on women. Table 4.12 reveals that there has been a 142.4 percent increase during the 1971-81 intercensal period in the total administrative and managerial workers category and here again, the relative increase in the number of women far exceeds those of the men. Women in these occupations showed an increase of 312.5 percent as against an increase of only 132.1 percent for men. Furthermore, in the clerical and related workers category there was only a 38.3 percent rise in the total, but women in this category showed an increase of 196.4 percent in contrast to only a 19.7 percent rise amongst the men. Women in professional, technical and related occupations increased by 58.4 percent while there was only a 23.9 percent rise seen in men (Table 4.12). Similarly, in the sales workers category, despite there being a modest increase of 15.9 percent in the total, there was a marked rise of 39.3 percent in women sales workers, much above the 14.3 percent increase for men. In contrast, female agricultural workers, in a predominantly agricultural country like Sri Lanka, recorded a decline of 7.8 percent during the aforesaid period. In Table 4.12, the agricultural population has been classified along with fishermen. But in Sri Lanka, with fishing being exclusively a male occupation, the decline in participation of women purely reflects their lesser involvement in agricultural

Table 4.12: Some major occupational categories of the employed population, by sex, Sri Lanka, 1971 and 1981 (in thousands)

Some Major Occupational Categories		1971	1981		1971-81	
		Number	Percent	Number	Percent	Number	% Change
Professional	T	178.5	4.9	246.4	6.0	67.9	38.0
Technical &	M	105.2	2.9	130.3	3.2	25.1	23.9
Related Workers	F	73.3	2.0	116.1	2.8	42.8	58.4
Administrative	T	13.9	0.4	33.7	0.8	19.8	142.4
& Managerial	M	13.1	0.4	30.4	0.7	17.3	132.1
Workers	F	0.8	0.0	3.3	0.1	2.5	312.5
Clerical &	T	186.1	5.1	257.4	6.2	71.3	38.3
Related Workers	M	166.5	4.6	199.4	4.8	32.8	19.7
	F	19.6	0.5	58.1	1.4	38.5	196.4
Sales Workers	T	272.4	7.5	315.7	7.7	43.3	15.9
	M	255.1	7.0	291.6	7.1	36.5	14.3
	F	17.3	0.5	24.1	0.6	6.8	39.3
Agricultural	T	1,782.1	48.8	1,847.0	44.8	64.9	3.6
Workers &	M	1,287.2	35.3	1,390.4	33.8	103.2	8.0
Fishermen	F	495.0	13.6	456.6	11.1	-38.4	-7.8

Source: Derived from Dept. of Census & Statistics, Census of Population and Housing, Sri Lanka, 1981, General Report, table 12.3.

employment.

Therefore all evidence establishes that there has been on overall increase of women's participation in the labour force, and census data reveal a virtual surge of women into the professional, technical administrative, managerial and white collar positions in employment. It is not merely an expansion in the female participation in the labour force, but significantly women have begun to play occupational roles that reflect a change in aspirations as they take up occupations which they were hitherto either deemed incompetent to handle or banned. The former limitation was removed by the expansion in female education, and the latter by legislative measures which outlawed sex inequality in employment. Moreover, the increase in the proportion of women employed in the categories of public administration, defence, education and health services was made possible by the recruitment policy permitting females to be employed in many services hitherto reserved only for men. The teaching and the health professions have for many years been the principal avenue of employment for educated women, and the rapid expansion of these services, that formed part of the wider programme of the state to provide free welfare measures contributed to an increase in the number of women employed in these services. In 1971, 47.6 percent of those engaged in educational services were women and their proportion rose to 54.5 percent in 1981, with 58.4 percent of all teachers serving in the country being women. As for medical, dental and health services, the proportion of women rose from 35.6 percent in 1971 to 42.6 percent in 1981 with 91.2 percent of professional nurses serving in the country being women. Assuming a further expansion of the educational and health services in the country, the employment opportunities for women in these areas would continue to be on the rise in the future.

The above picture reveals that women have progressively come out of the home

based role to play their part outside it. This transformation has helped bridge the dichotomy that existed between men and women, whereby the former only participated in occupational roles with the latter confined to home management involving arduous and unrenumerative activities.

In Table 4.10, the age-specific activity rates of women aged 15 to 44 over the 1946-81 census years could be seen. It reveals a progressive increase, with any negative trends attributable to the changing definitions and concepts explained earlier. These higher activity rates of women would align with higher age at marriage, a rise in the educational level and a decline in fertility in Sri Lanka. Such changes and the changing roles played by women in society tend to have a direct bearing on the process of fertility transition .

4.3.3 Women's Work & Fertility: Are Links Always Negative?

Although the simplest hypothesis has been that fertility is inversely related to women's labour force participation, some types of work are conducive and tend to be in harmony with the child-raising process. Thus in the demographic pre-transitional stage women had played minimal roles towards income production and only then in agriculture and other home-based small-scale cottage industries where women mainly turn out handicrafts which are now a tourist attraction. This pattern of being economically active was not in conflict with their roles as home makers and mothers. When women handle economic activities which are home-based or are associated with farmsteads which form part of the residential agglomeration, no constraints are laid on the fertility behaviour. It was the transition which made women engage in employment in the modern sector that came into conflict with motherhood and the accompanying roles at home. Hence women's

marital and maternal responsibilities came to be affected by their participation in the labour force.

Studies on the interrelationship between fertility and female labour force participation rates generally establish significant associations betwen the two. Participation of females in the labour force is affected by child bearing and other related maternal responsibilities which deter them from joining the labour force. In highlighting the inverse effect it has been stated that " the upward trend of female labour force participation rates observed in the developing countries during the last decade (i.e. the 1970's) may be caused by decrease in fertility, later age at marriage, increase of the proportion of educated women and other socio-economic factors " (Population Research Leads 4, 1979:25). It reiterates the earlier stand taken where it has been established that advanced education of women and their participation in the labour force outside agriculture or domestic service are associated with later ages at marriage and smaller families. Such trends have been observed by Goldstein (1972) in his study in Thailand wherein he postulates that in low income countries the inverse association between fertility and women's participation in the labour force exists only in urban areas and suggests the relationship to be positive in rural settings. Arising from these observations, it has been contended that it is mostly rural-based activities of women which tend not to clash with their roles as mothers, and that on taking up employment in the modern urban sector would result in restricting fertility behaviour (Gendell *et al*, 1970; Kupinsky, 1971). Hoem and Hoem (1989:54) in a study of the Swedish population, based on the fertility survey of 1981 observe that " intensities of third births among housewives exceed those among women who worked full-time by one third and the excess was two thirds in the case of second births." They regard that

"on the basis of human-capital theory, that a women's willingness to have another child will decrease as the time that she has spent in the labour force increases." The underlying fact is that fertility costs are higher for career women than for those engaged in non-career, home-based income generating activities. However, deviations from this premise are possible and may occur basically in developing countries due to the prevalence of conditions under which fertility is least likely to restrict women's work schedules. Such situations occur when the family is of the extended type, enabling the function of child care to be shared by members of the family especially grandparents who are pensioners. Moreover, with the cost of domestic labour being low, the care of children when the mother is away at work becomes easy, especially when her earning capacity is much higher than the sum spent for child care.

In the demographic sample survey (1987) of female employees in the public sector of Sri Lanka in respect of child care when the mother is at work, a question was included with the view to assessing the kind of assistance obtained when the mother is at work. Of a total of 111,000 currently married females in the public sector, the inquiry was estimated from 89,000 of them, and found that 30 percent had parents of the mother or father to look after the child at home while the mother was at work, 19 percent servants (domestic labour), 15 percent relatives and 14 percent others. Only a negligible figure of less than 1 percent had their children at Day Care Centres and Nurseries. There was however a hidden category which formed the rest and they comprised of those children who were looked after by their neighbours. This is a fairly common practice and is somewhat ingrained in the social milieu of Sri Lankan society. There are in addition children whose mothers are teachers who return home with their mothers. The presence of Montessori

and nursery schools which offer the first exposure to schooling in the early ages of the child before entering a regular school helps to play the dual role of learning and care. Above all with schools in general functioning only during the morning session, the care is necessary only for part of the day.

Despite the changing definitions and concepts over the years which make straightforward comparisons difficult, the trend that surfaces in Sri Lanka is one of a growth in the female participation in the labour force (Tables 4.8 & 4.9) coupled with a decline in fertility.

During the intercensal period 1963-71, the female labour force increased by 64.3 percent reflecting an annual growth rate of 6.2 percent, but the crude birth rate declined by 10.9 percent from 34.1 per thousand population in 1963 to 30.4 per thousand in 1971. During the 1971 to 1981 period, the female labour force showed only a modest increase of 8.9 percent (partly attributable to the application of the labour force concept at the 1981 census referred to earlier) and the crude birth rate recorded a 7.2 percent drop, declining from 30.4 per thousand in 1971 to 28.2 per thousand in 1981. The general increase in the labour force since 1963 is partly accounted for by the large influx of females into the labour force. The 1963 census enumerated 3.4 million in the labour force of which 20.7 percent were females. This proportion rose to 26.2 percent at the 1971 census. The 1981 census enumerated 5 million in the labour force with 25.5 percent being female, which presumably could be an under estimation of the participation rates arising out of the changing definitions and concepts applied at this census.

Table 4.10 reveals the female age specific activity rates. In this regard it is necessary to note that the crude activity rate is not a satisfactory measure for

making comparisons of the degree of economic participation over time as it is based on the age composition of the population. Moreover, since the census exercises of 1963, 1971 and 1981 have all reported that around 75 percent of those aged 10-14 are full-time students, and as for many years the age of retirement for both the private and public sectors has been 60 years, the economic participation of ages below 15 and above 60 would be minimal. Therefore it is best to limit the analysis to refined rates computed for ages ranging from 15 to 59 years. Hence, the activity rates shown in Table 4.9 form a more appropriate index of the trends and patterns in the labour force.

Due to the application of the labour force concept in enumerating the economically active population in 1981, it is best to look at the 1971 picture in determining the degree of female participation within the 20-44 age range. The increase seen in the 20-29 age groups is very impressive with a 43 percent activity rate amongst the 20-24 age group and a 40 percent activity rate in the 25-29 age group.

In an attempt at establishing causal relationship between women's labour force participation and fertility, Weller (1977:43) identifies the following positions:-

(i) family size affects labour force participation.

(ii) labour force participation affects family size.

(iii) both family size and labour force participation affect each other, and

(iv) the observed negative relationship is spurious and is caused by common antecedents of both variables.

Wilson (1979), using the special tabulations on children ever born to currently married women aged 15-49 from the 1971 census of population of Sri Lanka, exam-

Table 4.13: Children ever-born per currently married women by age and labour force status, Sri Lanka, 1971.

Age Group	Sri Lanka		Urban		Rural	
	LF	NLF	LF	NLF	LF	NLF
15-24	1.22	1.45	1.38	1.54	1.29	1.42
25-34	3.08	3.38	2.46	3.20	3.18	3.44
35-49	5.25	5.45	4.06	5.09	5.44	5.56
Total	3.88	3.94	3.16	3.77	3.99	4.04
Standardized	3.64	3.90	2.95	3.69	3.79	3.95

LF: Labour Force; NLF: Not in Labour Force

Source: Derived from, Wilson, P. "Fertility and Female Labour Force Participation in Sri Lanka" Vidyodaya, Journal of Arts, Science & Letters, Vol. 7 (1), 1979, p 63, table 5.

ined the relationship between fertility and labour force participation. Table 4.13 indicates that the number of children ever born per currently married woman is slightly lower amongst those women who are in the labour force than among those out of it. At the macro level, it shows that the fertility level of women in the labour force in 1971 was 1.5 percent lower than that of women regarded as housewives. The former reported 3.88 ever born children and the latter 3.94. However, the negative relationship is more striking amongst the urban women whose fertility is seen to be lower than their rural counterparts in the labour force. Such urban-rural differences may be explained by the variations in the role compatibility, because in the urban areas there is a definite conflict between the role of mother and worker.

This is at a minimum or insignificant in the rural areas due to the type of female work that is either home-based or is in proximity to the home, with assistance provided by members of the family acting as parental surrogates helping the mother to play her roles outside the home.

Table 4.14: Mean age at marriage for currently married women by activity status, educational attainment, occupation and employment status, Sri Lanka, 1971.

By Activity Status	Employed	21.0
	Unemployed	22.0
	Others (Housewives)	20.7
By Educational Attainment	No Schooling	19.6
	Primary & Secondary	20.8
	High	25.8
	Unspecified	19.9
By Occupation	Traditional Agriculture	19.2
	Modern Agriculture	19.9
	White Collar	27.3
	Blue Collar	21.4
By Employment Status	Paid Employee	21.6
	Employer	21.7
	Own Account Worker	20.2
	Unpaid Family Worker	19.6

Source: Derived from, Wilson, P. " Fertility and Female Labour Force Participation in Sri Lanka, " Vidyodaya, Journal of Arts, Science & Letters Vol. 7 (1), 1979, p. 65, table 10.

In this regard, it has been contended by several (Gendell *et al*, 1970, Goldstein, 1972 and Speare *et al*, 1973) that the differentials in fertility amongst women in the labour force and outside it are an outcome of education rather than of labour force participation *per se*. Education is a variable which plays a cardinal role in effecting the process of social transformation amongst women. Wilson (1979) had further established that the smaller families among educated economically active women are not only a result of the opportunity cost but also the effect of age at marriage. Table 4.14 reveals that a currently married woman with the highest educational qualifications has a mean age at marriage of 25.8 while illiterate women have a mean of 19.6. Alongside this relationship between age at marriage and education, Wilson, in establishing an inverse relationship between fertility and labour force participation, finds the negative link more striking amongst women engaged in clerical occupations whose age at marriage is the highest at 27.3; there has been a very large influx of women into these occupations during recent decades (Table: 4.12)

Therefore, the fertility lowering process which is identified with, and set in motion by, women entering the labour force in large proportions takes effect by the process operating through other variables such as education, age at marriage and the occupational types rather than through their participation in the labour force *per se*.

4.4 Conclusion

All in all, the transition is an outcome of the contradictory functions that working women are called upon to perform when they start bearing children. It results in the role at home as mother clashing with the roles expected of her at

work. This line of interpretation would find added support in view of the fact that female labour force participation tends to lower fertility due to role incompatibility. In this respect, it is contended that the difference lies mainly in whether the mother while engaged in work does step out of or stays within or close to the home during the child-caring stage of her life cycle.

The former situation lays curbs on fertility, whereas the latter does not and could enable both employment and child caring to go hand in hand. Such observations remain adequately documented by Miro & Mertens (1968) using Latin American data, Stycos & Weller (1967) from their Turkish study, and by Gendell (1967) who based his inference on Indian evidence and by Kasarda (1971).

In all these situations, whether women achieved any degree of autonomy through employment is not the factor that has any direct relevance to fertility performance. In other words it is not female autonomy *per se* that determines the fertility levels, rather it is their autonomy derived through education and a career leading them into playing occupational roles outside the home that decides it. Therefore it is best that it is viewed regardless of their freedom within the household, popularly regarded as power relations between the sexes.

Another line of thinking was unfurled by Knodel *et al* (1984) in a qualitative study in Thailand. The study adopted an informal group discussion method with open ended questions which encouraged participants to comment freely. It established that it was not the degree of autonomy *per se* the women held in society that mattered, rather what determined the decision making was that women had to bear the brunt of the pain, suffering and the health hazards of bearing a child followed by the protracted process of rearing and caring for them alongside attend-

ing to the household chores. Hence the women tended to have a greater say in the matter. Moreover, most contraceptive methods in Thailand leaned on the female rather than on the male, thereby placing the reproductive decision making process under the women's domain of control.

In Sri Lanka, power, prestige and control of resources may arise in cases where the girl when given in marriage has been provided with an attractive dowry, such as houses, estates, cash, jewellery and in some instances a donation to the female sibling of the bridegroom. Since all such wealth is assigned to the girl on being given away in marriage, she is not only conscious of her assets but is also conscious of their power, and thus she feels more independent and secure as she can always lean on it for support. This is a brand of autonomy very different from those referred to earlier, which may lead to more balanced power relations within the household. As to what impact such a type of autonomy would have in respect of fertility has to remain unanswered. However, with her future insulated against hardships, the wife gains added status and stability in the household.

In situations where the parents do not have the means to provide sufficient dowry to their daughter, parental desires would work towards prolonging their daughters to be in employment with the view to collecting a dowry that would make her feel secure on entering the new household. Based on the above, it may be postulated that autonomy derived through a dowry could confer on women greater power, prestige and status for the central control of resources than through employment.

Chapter V

Estate Women's Fertility: Some Aberrant Perspectives In The Causal Links

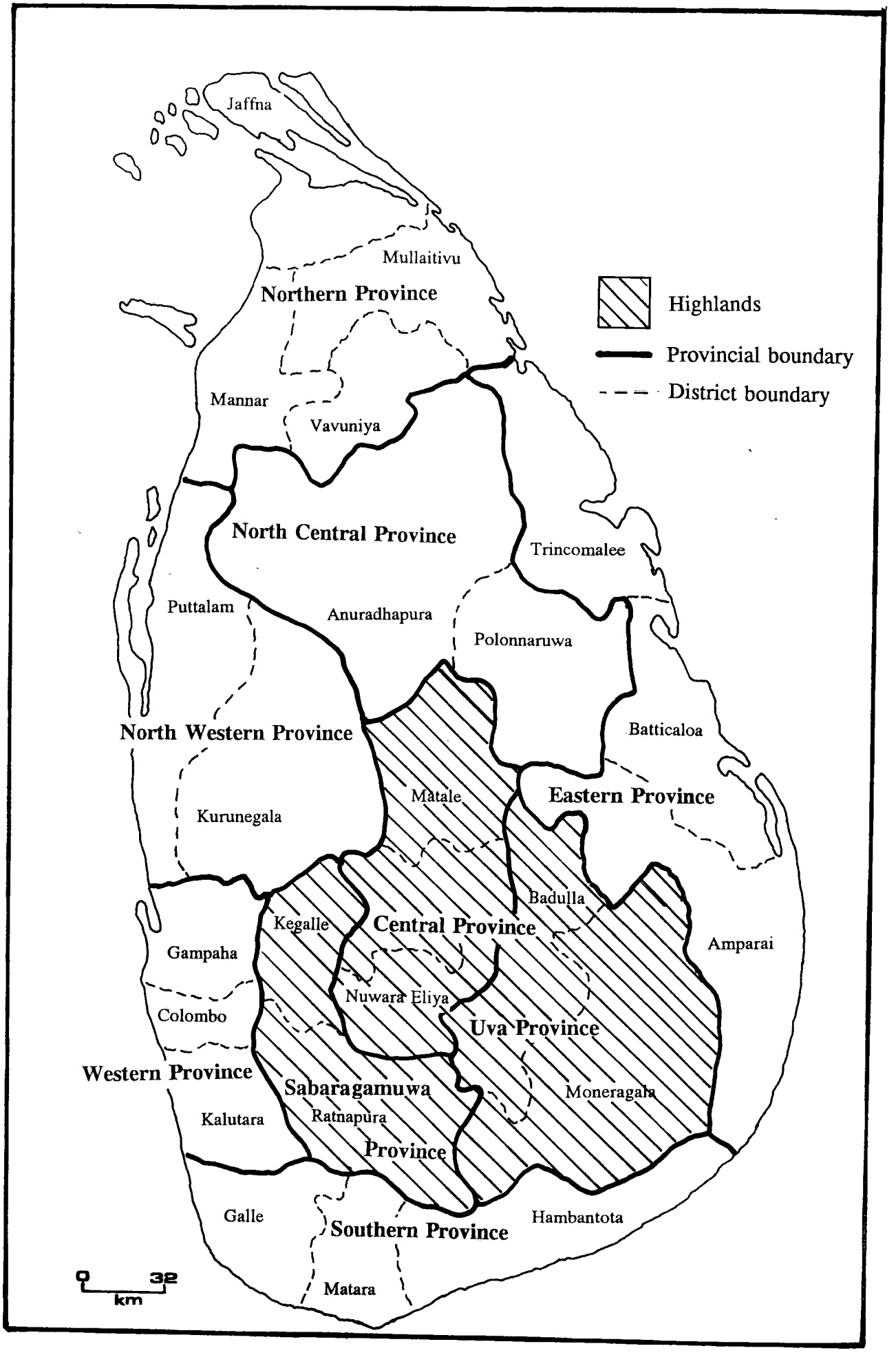
5.1 A Function of Social Deprivation & Social Change

5.1.1 Introduction

It has now been seen that it is not labour force participation of women *per se* that contributes to lowering fertility and that there are other factors like their educational attainment, age at marriage and occupational types which act concurrently towards determining the fertility levels of working women. The scenario hitherto portrayed showed the changes as an outcome of new desires which contributed towards this decline. All in all, the mechanism that lowers fertility amongst working women springs from the effects of role compatibility, which arises from the process of modernization and employment in the modern urban sector, coupled with the changing aspirations of women and their desire for career building, all basically related to higher standards of living and a need to adjust to living in a nuclear family setting.

New perspectives, tend to emerge on looking at the fertility of the Indian Tamils of Sri Lanka, who were brought into the island by the British from the poorest settings in South India during the late nineteenth century to work on the coffee and later tea plantations which they opened up in the central highlands of the country. The highlands of Sri Lanka covers three provinces and seven administra-

Figure 5.1: Plantation Districts of Sri Lanka



tive districts. Within the Central Province are the districts of Matale, Kandy and Nuwara Eliya, the province of Uva has Badulla and Moneragala districts within it while Sabaragamuwa Province covers the Kegalle and the Ratnapura districts (Fig. 5.1). Women who work on the tea estates now record a very impressive degree of labour force participation in that sector of employment. Although, according to the 1981 census of population and housing, the Indian Tamils form only 5.5 per cent of the total population of Sri Lanka, they show a 54.3 per cent participation rate in the labour force in the plantation sector. This high participation rate may be attributed to the fact that the estates offer one kind of work more suitable for women, like the picking of tea. Moreover, being highly dependent on the economic productivity of women does reflect their low economic status.

The common findings of research are that women in the labour force bear less children than those out of it. However, the behavioural pattern of Indian Tamils is somewhat aberrant in nature as for some time in the fifties, sixties and seventies their fertility performance was lower than those women in the other major ethnic groups in the country, namely the Sinhalese and the Sri Lanka Tamils. On closer examination of the underlying factors, it becomes evident that it is again not the labour force participation *per se* that was the determining factor, and that fresh and different evidence reveals factors accounting for this impressive but anomalous inverse link.

The work of the Indian Tamil Estate women, involving the picking of tea, is in no way to be associated with any career building process but is basically linked with the struggle for survival. This is evidenced by findings of Langford (1982), who on analysing World Fertility Survey data indicated that 95.0 per cent of the Indian Tamil women on estates had worked since marriage compared with

41.0 percent of Sinhalese, or 22.0 per cent of Sri Lanka Moors. Langford (1982:26) further states that " the World Fertility Survey data indicates not only that almost all Estate women had gone out to work since marriage but that 90.0 per cent or more of them worked at each stage of family building, " meaning thereby that child bearing and work occurred concurrently. Therefore it is hard to identify the common association that is often established as existing between working women and fertility, as it is a situation where the women are engaged in hard labour and an attempt to account for their aberrant lower fertility performance needs to look for the prevalence of negative factors which disturb the process of reproduction from conception to live births.

5.1.2 Marriage Age & Estate Women's Fertility: The Anomalies

Trends in age at marriage discussed in an earlier chapter revealed that the singulate mean age at marriage for the country has been on the rise between 1946 and 1981. This record was corroborated by the World Fertility Survey findings of 1975. Furthermore Langford (1982), using evidence from that survey, indicated that the age at marriage of women had been rising in all major ethnic groups in the country. But strangely, the survey data of the sample of the Estate Tamil women revealed that their age at marriage was lower than that of most other women in the population with a singulate mean age at marriage of 18.1 compared with 19.7 for the rest. Such an early marriage behavioural pattern of this segment of the population may be explained by their origins from South India with their roots in the system of child marriage. " Despite laws prohibiting girls from marriage before the age of 17 and boys before the age of 18, there are over 10 million child brides today in India." According to the Family Planning Foundation of India (FPFI), 46 per cent of girls in rural areas were married before the age of 13 and the rest before

the age of 17. A child bride has her first child by the age of 13 or at puberty, if she comes of age earlier. Many have three children by the time they are 20 and are grandmothers by the time they are 30 years old. The FPFI study states that child marriages are common among the poor but the custom is practised by the rich as well. The study correlates poverty and illiteracy not only with high fertility but also with child marriages (*Asian,* Population Headliners, ESCAP, March, 1989).

With such nuptiality behaviour, one would expect the Estate women to have a higher fertility performance than those in the other ethnic groups, in view of their longer period of marital life during their reproductive span than those marrying at later ages. Here again, as in the earlier occasion when relationships between fertility and the degree of labour force participation of these women were looked at, anomalous facts surfaced. The marital fertility of the Estate women was found to be lower than the population of Sri Lanka as a whole, with 3.63 mean number of children ever born to the Estate women and 3.94 to all groups (Table 5.1). The table reveals the mean number of children ever born to Estate women and to other ethnic groups in the population by age at marriage and duration of marriage. The interesting finding is that the Estate Tamil women, despite their relatively lower ages at marriage, show the least fertility performance at all ages. This trend was found to be consistent both amongst women who married before age 20 or later. Such unusual aberrant fertility behaviour among these women is further highlighted in the survey which also revealed that these women had reported far less contraceptive use than women in the other ethnic groups in the sample, making the task of accounting for their lower fertility behaviour far more formidable.

Table 5.1: Mean Number of Children Ever Born to Estate Tamil Women and to other Ethnic Groups in Sri Lanka by Age at Marriage, 1975.

Age at First Marriage	Sinhalese	Sri Lanka Tamils	Sri Lanka Moors	Estate Tamils	All
All ages	3.94	3.95	4.35	3.63	3.94
<20	4.89	4.55	4.80	4.12	4.75
20+	2.86	2.65	2.89	2.35	2.81

Source: Derived from C.M. Langford, The Fertility of Tamil Estate Workers in Sri Lanka, WFS Scientific Reports No. 31 (Voorburg, International Statistical Institute, 1982) p.16, table 7.

5.1.3 Features and Trends in Fertility

The fertility of the Indian Tamil Estate women was on the decline from 1946 to 1971 and showed a rise in 1981. In 1946, their fertility was higher than the all island figure, a crude birth rate of 41.2 per thousand compared with a crude birth rate of 37.4 per thousand population. However, from 1946 to 1971 the crude birth rate of the Estate women fell from 41.2 to 25.7, representing a 38.0 per cent fall, whereas the all island rate dropped by only 19.0 per cent from 37.4 to 30.4. Furthermore, it is interesting to note that between 1946 and 1953 the figures for Sri Lanka and all other ethnic groups in the country, recorded an increase in birth rates. For instance, amongst the two major ethnic groups in the island, the Sinhalese showed a 6.0 per cent increase in the crude birth rate which rose from 38.7 to 41.0 and the Sri Lanka Tamils recorded a 10.0 per cent increase from 35.6 to 39.2, whereas astonishingly the Indian Tamils showed a 20.0 per cent decline in

their crude birth rate from 41.2 to 33.0. In addition Langford (1982) observes a fall in the general fertility rate as well as in the estimated marital general fertility rates of the Estate women during the 1946 to 1953 period. Trends in the crude birth rate from 1953 to 1971 indicate declines amongst all ethnic groups in the country, but the Estate women reveal the lowest fertility performance amongst them all. However, the fertility of the Indian Estate women is seen to undergo a change in trends after a lag of three and a half decades when in 1981 it indicated a rise in the crude birth rate. This behaviour again is a departure from that of the other ethnic groups as they all continued to record a fall in the crude birth rate (Table 5.2). An attempt will now be made to account for these unusual tendencies over time in the fertility behaviour patterns of the Indian Estate women .

Table 5.2: Crude Birth Rates by Major Ethnic Groups, Sri Lanka, 1946-1981.

Ethnic Group	Crude Birth Rate				
	1946	1953	1963	1971	1981
Sinhalese	38.7	41.0	34.5	29.9	27.6
Sri Lanka Tamil	35.6	39.2	37.6	31.8	29.9
Sri Lanka Moor	41.7	42.7	42.9	39.0	31.8
Indian Tamil	41.2	33.0	28.3	25.7	30.0
Sri Lanka	37.4	38.7	34.4	30.4	28.2

Source: Derived from D.F.S. Fernando, Differential Mortality and Fertility in Sri Lanka by Ethnic Group: Biology and Society, vol.7 (4) Dec. 1990 p.221, table 7.

As stated earlier, the Indian Tamils who form the estate labour population of Sri Lanka were drawn from a poverty stricken population in South India. Socially, they belonged to the lower stratum of society in the prevalent caste system which is woven into the fabric of community life there. Hence, the management which undertook to employ them on the plantations were able to satisfy them with the provision of the basic amenities of life in respect of health, housing and education. Consequently, their socio-economic conditions, compared to the other sectors of the population in the country, could be regarded as the lowest. Their educational background is poor, with the literacy rates amongst the Estate women being the lowest, only 56.3 per cent literate in 1981 compared with the national level of 83.2 per cent of women. Educational facilities in the estates were kept to the bare minimum. They did not fall in line with the general educational system of the land. Their schools were termed " estate schools " which had very basic infrastructural provision and were poorly equipped, being staffed by teachers who were recruited exclusively to serve in these schools. These teachers could well be of poor quality, matching the teaching needs which were far less demanding. With such services at the supply end, the demand too was poor as school attendance was low, with the highest school avoidance rate of 36.07 per cent when the all island rate was less than half, at 15.14 per cent. Being in this secluded estate setting, the horizon especially of the women students was extremely limited, with their aspirations confined to becoming plantation workers. They neither had a wider vision of employment opportunities nor were there the educational facilities to equip them to meet it. All in all, there was no incentive to stay in education. Similarly, the health facilities were minimal. There were estate dispensaries, and here again, those recruited to man them were of an exclusive brand of medical personnel, initially called Estate Apothecaries or Pharmacists and now designated

Estate Medical Assistants. Their primary duty is only to attend to minor health problems of outdoor patients. Most estates also have a maternity ward with a very limited bed capacity staffed by only a qualified midwife.

In accounting for the plight of the Indian Estate Tamils, it is relevant to refer to their disenfranchisement in 1948, which undoubtedly led to a deterioration of their living conditions. Depriving the Indian immigrant Estate population of their voting rights was an outcome of the fear that lingered amongst the Sinhalese nationalists, who felt that the central parts of Sri Lanka would become an enclave of Indian Tamils and would also be represented in parliament by Tamils. In fact prior to independence, many a seat in the Central Province, where the Estates are primarily located, was represented by Tamils in the State Council. Political motives aside, the move to disenfranchise the Indian Tamil population brought detriment to them as they became a neglected group. Once the machinery of the government began to function through elected representatives, the Estate Tamil population ceased to be represented; those who aspired to enter the echelons of the legislature could well afford to be insensitive to their needs and problems as this segment of the population were outside the range to be canvassed for support.

5.1.4 Mortality of Indian Tamils

Although the all island demographic indicators are impressive and stand out amongst the countries in South Asia, disaggregated analysis reveals that this segment of the population living in the plantation districts forms an ethnic group that would not form a representative sample of the overall macro demographic picture. While the all island crude death rate in 1981 was 6.0 per thousand, the Indian Tamils recorded a high 10.7 rate per thousand population. The discrepancy is

Table 5.3: Crude Death Rates by major Ethnic Groups, Sri Lanka, 1946-1981

Ethnic Group	Crude Death Rate				
	1946	1953	1963	1971	1981
Sinhalese	20.5	10.4	7.9	6.8	4.9
Sri Lanka Tamil	20.9	12.4	10.5	8.2	5.1
Sri Lanka Moor	25.5	14.0	10.1	7.9	5.8
Indian Tamil	18.2	12.1	11.1	13.4	10.7
Sri Lanka	20.4	11.0	8.7	7.7	6.0

Source: Derived from D.F.S. Fernando, " Differential Mortality and Fertility in in Sri Lanka by Ethnic Group," Biology and Society, Vol.7 (4), Dec., 1990 p.217 table: 3

all the more significant when comparisons are made with other ethnic groups, all of which express a better performance than the national rate (Table 5.3). Similar trends are seen in the infant mortality rate which has been consistently much higher than the other ethnic groups over the years and stood at 73 per thousand live births in 1981 (Table 5.4) when the all island figure was only 30 with all other ethnic groups recording less than the national rate.

From 1963 onwards not only was there a change towards a further rise in the prevalent levels in life expectancy of the Sri Lankan population, but there came about a change which signalled a transformation from the developing to that of a developed pattern, whereby the expectation of life of women began to be higher than that of men. Meegama (1969) attributes these changes largely to improved

Table 5.4: Infant Mortality Rates by Major Ethnic Groups, Sri Lanka,1957-1981.

Ethnic Group	1957-59	1960-64	1965-69	1970-74	1975-79	1980	1981
Sinhalese	56	49	46	40	37	31	27
Sri Lanka Tamil	66	54	48	39	31	26	21
Sri Lanka Moor	76	62	55	46	36	28	27
Indian Tamil	106	101	103	113	99	86	73
Sri Lanka	63	55	52	47	41	34	30

Source: Derived from D.F.S. Fernando, " Differential Mortality & Fertility in Sri Lanka by Ethnic Group," Biology & Society, Vol. 7 (4), Dec., 1990, p.216 table: 4.

maternal and child care and other related health programmes in the country. Again in the seventies, Sri Lanka achieved a very low level of mortality and enjoyed a very high level of life expectancy. A district study of mortality by Rao (1976) revealed that the Nuwara Eliya District, which has the largest plantation population in the country, showed a female expectation of life of 55.1 as against 56.1 for males compared with the national level of life expectancy being 67.1 for females and 64.2 for males. Census data reveals that in 1980 the Estate females still lagged behind the males with a life expectancy of 64.6 and 64.7 respectively in the Nuwara Eliya District, when the national expectation of life for females was 71.7 and 67.8 for males. ESCAP estimates for 1992 were 74 for women and 70 for men. Hence, it is disheartening to note that the exogenous factors which contributed to the precipitous fall in mortality referred to in studies by Meegama (1967), Nadarajah

(1976), Selvaratnam (1970), Newman (1965) had failed to permeate the Estate population. The resultant effect is visible in the low expectation of life at birth prevalent amongst the Estate population, with women still lagging behind men, when women reached better life expectancy than men at the national level as far back as 1963. These trends in mortality and expectation of life are evidence of the deprivation factor in respect of health, medical and educational services that the Estate population faces and which the rest of the population in the country are fortunate to enjoy.

5.1.5 Household Size

The consumer finance and socio-economic surveys carried out in 1963, 1973, 1978/79 and in 1981/82 by the Central Bank of Ceylon throw adequate light on the living conditions of the population living in the estates of Sri Lanka. Their fertility pattern is reflected in the household size in the Estate sector. The general picture that emerges is one that reveals a decline in household size in all the sectors from 1963 to 1982, a period when data from four surveys are available. However, the Estate sector has the smallest average size since 1973. It had declined from 5.24 in 1973 and remained fairly constant around 4.81 persons at the 1981/82 survey (Table 5.5). The urban sector represents the largest household size with 5.48, followed by the rural size which is 5.21, with the all island figure almost similar to it at 5.23.

5.1.6 Housing

The Estate labour population are housed under the most uncongenial living conditions. The housing type provided for them is one of long rows of dwellings called " line rooms." These are sub-divided into units to accommodate single

Table 5.5: Average Size of Household by Sectors and All Island, Sri Lanka, 1963-1982.

Sector	1963	1973	1978-79	1981-82
Urban	5.97	5.78	5.67	5.48
Rural	5.70	5.63	5.49	5.21
Estate	5.80	5.24	4.73	4.81
All Island	5.75	5.62	5.46	5.23

Source: Derived from Central Bank of Ceylon, Report on Consumer Finances & Socio Economic Survey 1981-82, Sri Lanka, Colombo 1984, p.22, table 2.1.

families and provide a living space of around 3 by 3.75 metres with a small verandah outside. This very room has to provide the space for the kitchen as well. The accommodation is ill-ventilated, cramped and skirted by drains often with stagnant water which is a health hazard. It has been estimated that this accommodation provides a floor area of 4.3 square metres per person when the all island figure is 11.2 square metres (Table 5.6). With such substandard housing provided for them in the estates, it is almost inevitable that it restricts or lays constraints to normal sexual interaction amongst couples. With the living space for the entire household limited to a floor area of a mere 3 by 3.75 metres, with space to be carved out within it for use as a kitchen, one is left only to wonder how much privacy is available for relaxed sexual union. Although this problem lacks the means to be tested, one is tempted to posit the possibility of such housing inhibiting fertility performance.

Table 5.6: Average Floor Area per Person, by Sectors and All Island, Sri Lanka, 1981-82.

Sector	Average Floor Area per Person (Sq Metres)
Urban	12.5
Rural	11.5
Estate	4.3
All Island	11.2

Source: Derived from Centrel Bank of Ceylon, Report on Consumer Finances & Socio-economic Survey, 1981/82, Sri Lanka, Colombo. 1984, p. 82, table 3.22

5.1.7 Income Levels

In 1981-82 the Estate sector had a mean monthly income of Rs 449 and a median of Rs 376. In this regard, the median needs to be regarded as portraying a more realistic picture of the average income level as it is insensitive to a few high or low income receivers in the sample. Comparisons of the Estate sector median income level with those of the urban and rural sectors reveal that they were Rs 977 and Rs 781 respectively (Table 5.7). Moreover, those receiving incomes less than Rs 500 amounted to 22.5 per cent of the urban sector, 32.0 per cent of the rural sector and 73.0 per cent amongst the Estate sector. Above all, as those in the Estate sector are primarily wage earners, with a high level of 77 per cent of those in the Estate sector deriving their income from wages, there is greater equality in the distribution of income, reflected in the Gini ratio of 0.32, the lowest amongst the sectors as the urban and rural have 0.54 and 0.49 Gini ratios respectively.

Furthermore, the urban and rural sectors have positive savings of 17.2 and 11.6 per cent respectively as a proportion of their income, whereas the Estate sector shows a negative performance with a 21.2 per cent recorded dissavings on the average. All evidence drawn from the consumer finances and socio-economic surveys conducted by the Central Bank of Ceylon from time to time converge on establishing that the population in the Estate sector are in persistent poverty, wanting more resources than they could possibly earn, a clear indication of their low wage structure being their only means for survival.

Table 5.7: Mean, Median and Gini Ratio of Monthly Income by Sectors, Sri Lanka 1981-82.

(in Rupees)

Sectors	Mean Income	Median Income	Gini Ratio
Urban	1,625	977	0.54
Rural	1,077	781	0.49
Estate	449	376	0.32

Source: Derived from Central Bank of Ceylon, Report on Consumer Finances & Socio-Economic Survey 1981-82, Sri Lanka, Colombo, 1984, p.192, table 5.17.

5.1.8 Poor Nutritional Levels & Fertility: Some Findings

For women to reproduce, they should not only be free from specific diseases but also be in a state of health that would permit them to establish or fulfil their reproductive capability. Poor nutrition could disturb the physiology of reproduction leading to delays in puberty, and the impairment of ovulation or bring about

abnormalities of the menstrual cycle. Poor nutrition is widespread in many developing countries and there is evidence for the relationship between malnutrition and amenorrhea. " Therefore in selected populations with severe malnutrition or in a sub group of disadvantaged women within a population, poor nutrition may prolong postpartum amenorrhea sufficiently to have a significant demographic effect. This is in part attributable to the slow-down of metabolic processes as a result of the lack of essential nutrients " (Gray 1983: 143).

Moreover, it must be noted that reproduction itself is an important cause of nutritional disorders in women. Menstrual blood loss contributes substantially to iron deficiency anaemia in societies with inadequate dietary iron supplies, while pregnancy and lactation make major demands upon maternal protein, calorie vitamin, and mineral stores. Thus repeated cycles of pregnancy and lactation may be a factor leading to the state of chronic undernutrition observed in many women in developing countries (Jelliffe and Jelliffe, 1978).

Sector data on calorie intake show the Estate sector as having the highest which is around 2000 calories. Nevertheless, their nutritional levels are the lowest being adjudged by the fact that chronic undernutrition in the Estate sector was as high as 60 per cent whereas for both the urban and rural sectors it was around 33 per cent (Janatha Estates Development Board, 1984). Of the total expenditure on food in the Estate sector 19.02 per cent was spent on wheat flour compared to 1.56 and 2.21 on the said item by the urban and rural sectors respectively. This consumption pattern amongst the Estate sector had remained fairly consistent in the consumer finance surveys of 1963, 1973 and 1978-79. In this regard, it is necessary to indicate that wheat flour is regarded in Sri Lanka as a food of poor quality, the largest proportion of its consumers being amongst the Estate population does seem to

provide convincing evidence for their low nutritional levels. Further evidence in support of their poor nutritional standing was revealed by the nutrition survey (1975) carried out by the USAID Office of Nutrition (Table 5.8). The survey findings indicate a high incidence of nutritional deficiency among children in the Estate sector. The survey brought to light the fact that 56.3 per cent of the Estate pre-school children were stunted, meaning thereby that their height for age is less than 90 per cent of the reference median of the American National Academy of Sciences and 2.6 per cent were wasted, meaning that they fell below 80 per cent of the reference median of weight for height and 6.1 per cent were stunted and wasted with only 35.0 per cent of the sample investigated declared normal. Although the American reference standards in respect of stunting and wasting may be regarded as high for developing nations, the relevance here lies in the fact that the findings reveal the Estate sample as being nutritionally poor when compared to the rural and village[5] samples studied in the survey.

Many of the above deficient health welfare and nutritional aspects of life have their origins in the poor educational background of the Estate women. Apart from the employment prospects that education could provide for women, it helps in maintaining the desired levels of health, personal hygiene and nutrition. It is certainly hard for them to comprehend the nutritional value of food when they would be ignorant of it. According to the consumer finance survey carried out by the Central Bank (1984), the highest incidence of illness was in the Estate sector and the lowest in the urban sector of the population. In this regard, the Estate sector females were worse off than the males. Gastro-intestinal diseases were most pronounced in the plantations, a morbid condition resulting basically from the lack

[5] By village is meant a unit of habitation within the rural areas. Rural on the other hand connotes the wider spectrum of the residential entity which comprises of many village units.

Table 5.8: Nutritional Status of Pre-School Children in the Rural & Estate Sectors, 1975.

(Per Cent)

Sectors	Normal	Stunting [1]	Wasting [2]	Wasting & Stunting
Rural	62.0	31.4	3.3	3.4
Village	65.8	27.8	3.4	3.0
Estate	35.0	56.3	2.6	6.1

Source: Derived from Gavan, James D. and I. Sri Chandrasekera " The Impact of Public Foodgrain Distribution on Food Consumption and Welfare in Sri Lanka." Research Report 13, International Food Policy Research Institute, Washington, D.C., 1979, p. 22, table: 7.

1. Stunting means height for ages less than 90 per cent of the reference median of the National Academy of Sciences.

2. Wasting means falling below 80 per cent of the reference median of weight for height.

of safe drinking water, sanitary facilities and personal hygiene.

The poor socio-economic conditions surrounding the estate population and the resultant low nutritional levels amongst mothers have resulted in their impoverishment and inability to reproduce. Hence, it is such negative factors that need to be regarded as contributing to lower fertility amongst the estate women. However, such low fertility performance when related to the remarkable degree of the Estate women's participation in the labour force, ironically signals an inverse link

which therefore needs to be regarded as spurious in nature. The common if not the popular inverse relationship established by researchers between the two variables turns out to be a fallacy in this situation. It is because the negative side of these women's life with its inherent qualities of under-nourishment and the concomitant anaemic state, which contributes towards producing it and possibly not those factors associated with an enhanced status which women normally derive being in employment. The determinants at work in this situation do not conform to the accepted pattern; for example, demographic factors like age at marriage, which has an inverse relationship with fertility, strangely shows positive association amongst the Estate women. Therefore, their fertility behaviour creates anomalies in their relationship with other variables. Similarly, their lower fertility level does not find any relationship with labour force participation *per se* as it is not as normally linked with women's positive achievements resulting from aspirations, higher educational achievements and a desire for career building but to a combination of a set of negative factors. Some are attributable to a legacy of the past and others to the unfortunate turn of events after their arrival in the island which deprived them of many rights, setting the stage for the deterioration of their lives.

5.1.9 Possible Determinants of Abnormal Fertility Behaviour

Recent studies have focussed attention on the Estate population with the view to attempting to account for their unusual fertility behaviour. Langford (1982) regards foetal loss and poor health care as the causative factors involved. He provides evidence from the World Fertility Survey data which indicates Estate women having reported more wasted pregnancies than others. Ratnayake *et al* (1984) regard the varying intensity of breast feeding as determining the changes in fertility. This argument stems from the fact that if breastfeeding and the duration of

lactation continues long after childbirth it results in the absence of menstruation which contributes to women remaining in an infecund state. They attribute the lower fertility levels of the Estate women before 1975 when the World Fertility Survey in Sri lanka was conducted, to breastfeeding and regard any visible rise in their fertility performance during and after the World Fertility Survey to improved living conditions brought forth by the nationalization and the state take-over of the estates in 1975. The better life they contend led to the introduction of healthy substitutes such as powdered baby milk which led mothers to withdraw breastfeeding earlier than before. However Langford (1982), considering the high degree of labour force participation of the Estate Women, which keeps mothers away from their babies and going by evidence provided by the World Fertility Survey refers to the " weakening of the impact of breastfeeding " (Langford 1982:20) and assigns it a less significant function in determining the fertility of the Estate Women. Caldwell *et al* (1987:18) state " there is probably no clear cut explanation for low fertility on the estates because its causes are multiple. Undoubtedly, Estate Women breastfeed for much longer periods than most of the rest of the society. The duration of postpartum sexual abstinence was probably always considerably longer among the Estate Indian Tamils and continues to be so. As with much of the rest of society, there are probably high levels of terminal abstinence, but there seems to be little doubt that the Indian Tamils are more likely to practise sexual abstinence at other times as well. Together these are probably the major causes of low fertility." Moreover, they had observed the population as possessing knowledge of abortion through respondents who expressed their familiarity of points of access to the service in the nearby town of Kandy. However, they sound highly sceptical about the truth underlying the low fertility. This is explicit in their conclusion which indicates that to uncover the truth they would require the

services of investigators drawn from within their community. But with the poor educational background of this population one has to be pessimistic of achieving any success through this suggestion.

5.1.10 Some Thoughts on Contrasts in Estate Fertility

An attempt to account for the low fertility performance of the Estate Women needs necessarily to comprehend their low income and educational levels, poor state of health and the resultant low nutritional levels and the extremely uncongenial housing conditions in which they are made to live. Primarily, it hinges on the negative aspects of their life and any traces of improvement in their fertility needs to be regarded as having a threshold effect and an indication of improvements in their living and related standards.

The women who work on the plantations perform hard manual labour involving the climbing of steep mountain slopes laden with weights on their backs as they keep picking tea. However hard the task, they have to engage in it due to sheer necessity for survival. The socio-economic setting that surrounds them with its accompanying poor health and nutritional levels is in itself an unsatisfactory state which keeps them maintained with marginal calorie levels in their system to perform the type of hard labour that their employment demands. Over and above this, the task of child bearing would make additional calorie demands. Inability to match the desired level to achieve this additional task results in them experiencing what is termed ' secondary sterility,' distinguished from primary sterility where women have never been able to produce a child. Secondary sterility may arise after one or two children are born, associated with a low nutritional state incapable of conceiving and carrying pregnancy to the live birth stage. This is

because the period of gestation or pregnancy followed by lactation constitutes a significant drain on a woman's nutritional reserves. Pregnancy and lactation recurring during the reproductive span of a woman can lead to chronic malnutrition called maternal depletion syndrome, resulting in the woman losing her ability to conceive and reproduce. It leads to severe disruption of the reproductive physiology, considerably affecting fertility. This is evidenced by the World Fertility Survey findings that Estate Women not only had fewer live births but also fewer pregnancies. Another line of inquiry that needs to be pursued with this segment of the population is with the view to ascertaining whether there is any evidence of pathological infertility associated with diseases that could also arise from poor health and sanitation. If such a morbid state is related to poor curative medical facilities, effective access to antibiotics and other facilities of modern medicine would help to reduce childlessness and poor fertility.

Realizing the invisible if not the obscure nature of the determinants at work that have contributed to the fertility behaviour of the Estate Women, Caldwell et al (1987:18) regard that " the full unravelling of the mysteries of fertility control on the Estates awaits not better research instruments and methods but investigators who can identify with the community. Primarily, this means not just Tamil speakers but persons of Estate Indian Tamil origin." Given the reticent nature of their fertility behaviour, it is only those who live within their community and are conversant with their problems who could be regarded as being better equipped to help uncover the mysteries surrounding it. This is vital, as investigators of surveys had often reported respondents' refusal to answer questions of a sensitive and personal nature. It does not however necessarily mean that one amongst those living therein could play this role to extract information, as their perception

and understanding of their behaviour would not be easy to discover given their inability to comprehend such problems and issues over which only researchers attention is drawn. Hence, what is needed is the help of individuals like the barefoot doctors of China who could render valuable assistance in this direction. Such an "observer" would tend to have an insight and a better understanding of what's going on around due to reasons associated with an education and their ability to interpret happenings therein in the light of a wider vision acquired in the process of having lived and gained close knowledge of all aspects of life in the Estates. The Estate Medical Assistant would come very close to satisfying this need, as he lives amongst the community and in the day-to-day process of playing his roles comes to share their problems associated especially with their health and related matters.

I would now put forth a personal view, having played a similar role not by living amongst them in the Estates but by employing women drawn from the Estates and who formed part of my household as domestic labour for well over a decade and a half. In short, I have played the role of a " participant observer " in the household, not of any one individual, but of ten to twelve, all of whose ages ranged from 15 to 30 and thus belonged to the reproductive age group. On being brought into the household, they all revealed characteristics of being undernourished and anaemic and required medical attention before being assigned to handle food and babies. Worm treatment had to be administered to all of them. Above all, observations relevant to the issue at hand that needs reporting is that the majority of those women whom we engaged, despite having reached puberty did not menstruate, a clear reflection of their lower nutritional levels and the consequent inability to reproduce due to physiological infertility. Medical opinion indicated their anaemic and malnutritional state as causing it. This is evidenced by the fact that within

a period of 6 to 8 months after joining the household, they began their monthly cycles, an indication of their improved nutritional condition and the resultant signs of their ability to reproduce. Therefore, the dormant period when they did not menstruate is attributable to the slowing down of metabolic processes arising from the lack of essential nutrients in the system. Hence the poor nutritional levels of this population could keep them in a persistent state of being unable to reproduce. Moreover the age of menarche could also vary being sensitive to nutritional levels. Bongaarts (1980) had demonstrated that girls with good diets have had significantly earlier menarche than those with poor diets. He further contends that there is an inverse relationship between age at menarche and socio-economic status. This provides additional support for the influence of nutrition on the onset of puberty. It is a line of inquiry that is worth pursuing on a larger sample of Estate Women with the hope of detecting the underlying causes for their prevalent seemingly anomalous fertility behaviour. Thus, by and large, no set behavioural patterns in human reproduction could be inferred as it is an outcome, if not the product of an extremely complex process. The causal links between nuptiality behaviour such as exposure to early or late marriage and fertility would vary amongst the sub groups of the population as it could be sensitive to changing societal situations and norms which tend to be a reflection of the underlying developmental processes in force.

In pursuance to this line of argument, it is worth looking at the underlying factors which had worked towards higher fertility in the Estate sector at different points of time. It is important to realize that the fertility of this segment of the population, except for being a shade lower than the Sri Lanka Moors who recorded a crude birth rate of 41.7, was higher than all other ethnic groups in the country in 1946, recording a crude birth rate of 41.2 live births per thousand population (Table

5.2). At that time their crude death rate was even more impressive as by being as low as 18.2 per thousand deaths it was strikingly lower than other ethnic groups, who all recorded crude death rates above 20 per thousand. Such a performance in births and deaths of this immigrant population could only find plausibility in one course of explanation which is that in 1946, the Indian Tamils enjoyed the right to vote and would have probably been on a better footing in respect of gaining access and being entitled to education, health facilities and other related welfare measures. Being at the receiving end of these services would have had its desired effects on the population. Therefore, their higher fertility and lower mortality at such points of time needs to be related to better life.

The disenfranchisement of the Indian Estate Tamil population, brought into force by legislation enacted in 1948, dealt a blow to their future welfare as power came to be exclusively in the hands of those who managed the Estates. The companies which managed the Estates, with their outlook being primarily commercial in nature led to the gradual degeneration of their living conditions. This bears testimony in the lower fertility and higher mortality levels recorded thereafter when compared to the other ethnic groups (Table 5.3).

Trends in the infant mortality rates amongst the different ethnic groups in the country from 1957 to 1981 (Table 5.4) reveal a steadily eroding health situation of the infants in the Estate sector when compared to the other ethnic groups and with the national rates at large. The difference between the infant mortality rates of the Estate population and the national level more than doubled from 68 per cent in 1957-59 to 143 per cent in 1981, a sign of the region being desolate for the provision of health care and associated services. However Langford (1982:14) computed indices of mortality for the Estate population for the period 1946-1971. According

to him, the infant mortality rate in 1946 for the Estate population was 131, lower than the rate for Sri Lanka as a whole at 141. Thus it establishes the viewpoint that it was the changes that took effect during the post disenfranchisement period that made the Estate population worse off. It therefore lends support to reiterate the disenfranchisement hypothesis, as between 1946 and 1953 the Sri Lanka rate declined to 71 recording thereby a 50 per cent fall whereas the estate infant mortality rate dropped to 112 recording only a 16 per cent fall, a clear reflection of the poor state of their health. Accompanying this rising trend in the infant mortality rate was the falling trend in the fertility rate which continued until 1971 to rise again in 1981.

5.2 The Changing Scenario and its Aftermath

There were traces of some improvement in the lot of the Indian Estate population who continued to remain stateless on being disenfranchised in 1948, when in October 1964 the issue was taken up by the governments of Sri Lanka and India. Accordingly, an agreement designated the Sirima-Shastri pact (derived from the names of the then Prime Ministers of Sri Lanka and India respectively) which related to persons of " Indian Origin " in Sri Lanka was signed. Under the terms of this agreement 300,000 of these persons together with their children were to be granted Sri Lanka citizenship, while 525,000 with their natural increase were to be repatriated to India, both processes to take place simultaneously over a period of 15 years (Population of Sri Lanka, 1976). Having had this beginning in respect of citizenship rights, there were other benchmarks of progress that followed which contributed towards uplifting them. The period of government from 1970 to 1977 saw many private ventures being nationalized, and included in the programme were land reforms. The plantations which were a private enterprise

came to be affected, being brought under the control of two government corporations, namely the State Plantation Corporation (SPC) and the Janatha Estate Development Board (JEDB). This move also meant that the Estate schools which were hitherto under the care of the management came under the state education machinery. In this regard, it is necessary to indicate that many problems that plagued the Estates had their roots in the poor educational facilities accorded to the population. Above all, the take over of the Estates by the state resulted in the plantation labour becoming State Corporation employees serving public Estates. However, changes toward a better deal for women surfaced only in 1984 when the principle of equalization of wages came to be enforced. Under this new wage structure both male and female labour on the Estates were paid Rs 23.70 per day. This was seen as a significant improvement in the terms of employment for women, who hitherto had earned lower wages despite working longer hours than their male counterparts. Furthermore, with the view to providing a better quality of life in the plantations, there were other areas where improvements were in sight. The provision of better health facilities was made possible with resources provided by the Asian Development Bank. Health education associated with enlightening women on pre-natal, post-natal care and child care has been introduced with aid sought from UNICEF. This is a step in the right direction, reckoning the degree of ignorance prevalent amongst the Indian Estate Women that causes most of the health problems. The above measures were accompanied by others related to maternity leave, with emoluments which may have effects on encouraging fertility, if not interpreted as steps taken towards achieving a better performance in fertility. Above all there are plans afoot to improve the housing conditions in the estates. In the Janatha Estates Development Board's Housing Needs Assessment Survey (1986) a sum of rupees 200 million is to be spent on improving the housing

conditions in the Estates.

It is evident that the Sirima-Shastri pact of 1964 which granted citizenship rights to the Indian Estate population was just the beginning of the process to rehabilitate them. The nationalization of the estates and its aftermath brought many desired changes to Estate life. Side by side with these there was a powerful trade union, the Ceylon Workers Congress (CWC) which represented them and was watching closely their interests and rights. It began to wield greater influence in monitoring their welfare when their leader was not only elected to represent them in the National State Assembly but also was made a Cabinet Minister with a portfolio to handle. There was a second Member of Parliament (MP) who was representing the CWC in the Colombo District and functions as the State Minister of Transport. A third MP who also represents the CWC functions as the State Minister of Hindu Religious and Cultural Affairs. In addition to the above who hold portfolios, two other MPs represent the two major plantation districts of Badulla and Nuwara Eliya in the National Assembly. These appointments boosted the image of the Estate worker relative to the other ethnic groups, and meant there was a beginning to expressing concern about the problems of this segment of population which had been neglected for long despite their vital contribution to the export economy. Above all, regaining the right to vote meant the beginning of the end to discrimination in the provision of welfare measures. The upshot of it all was that the Estate population came to benefit from all the recent welfare strategies mapped out by the government to uplift the masses in general; programmes such as the ' People Power ' (Janasaviya), the village re-awakening plans and that of housing were given coverage in the Estates as well. Unlike in the earlier situation, with Members of Parliament representing their interests in the National

Assembly, they were in a position of bargaining by offering their support only on attaining conditions to improve the lot of the Estate population and to bring them in line with the national population. According to figures provided by the Social Development Division of the Sri Lanka State Plantations Corporation (SLSPC) (1991), capital expenditure for social development increased from Rs 1.5 million in 1976 to Rs 94.3 million in 1987. This forms an impressive 13 per cent of the total expenditure on development.

Table 5.9: Age Specific Fertility Rates, General Fertility Rates and Total Fertility Rates by Major Ethnic Groups 1981, and Sri Lanka 1971 and 1981.

Age Group	Sinhalese	Sri Lanka Tamil	Sri Lanka Moor	Indian Tamil	Sri Lanka 1981	Sri Lanka 1971
15-19	36.4	40.0	55.5	39.3	38.5	39.8
20-24	167.6	167.5	209.0	230.6	173.7	184.2
25-29	192.3	198.7	235.2	263.1	199.8	231.9
30-34	148.3	162.4	177.9	174.1	153.3	199.1
35-39	89.0	97.7	104.6	102.7	91.8	131.0
40-44	27.2	26.8	27.2	27.8	27.2	39.6
45-49	4.1	3.7	4.7	3.5	4.0	5.6
GFR (15-49)	107.7	111.6	201.9	139.2	111.5	126.9
TFR	3.32	3.48	4.07	3.83	3.44	4.16

Source: Derived from D.F.S. Fernando," Differential Mortality and Fertility in Sri Lanka by Ethnic Group " Biology and Society, vol.7 (4) Dec. 1990, p. 222, table 8

Based on the developments over time, one is no doubt tempted to attribute the recent upturn in fertility of the Indian Estate women to improvements listed above. Table 5.2 reveals that the birth rates of Indian Tamils which consistently remained the lowest amongst the ethnic groups from 1953 to 1971 had moved by 1981 to second rank with a crude birth rate of 30, coming next only to the Sri Lanka Moors who are normally the highest fertility performers in Sri Lanka. Evidence of such fertility behaviour by the Estate Women was earlier observed in 1946, when they again came second in rank only to the said high fertility Sri Lanka Moors. This could be deemed a reflection of the better life enjoyed by the estate population prior to being disenfranchised. Table 5.9 shows the age-specific fertility rates, the general fertility rates and the total fertility rates for all ethnic groups in the country as at 1981 and for Sri Lanka in 1971 and in 1981. It is seen that the course taken by these indicators points to the rising trend in fertility amongst the Indian Tamil population. The general fertility rate and the total fertility rate of the Indian Tamils are higher than all other ethnic groups except for the Sri Lanka Moors who have all along been prone to higher fertility and hence differ in their fertility pattern. Looking at the course of age- specific fertility rates, the Indian Tamils show the highest rate for the 20-24 and 25-29 age groups exceeding in this case even the Sri Lanka Moors, who had been steady in having the highest fertility. As for all other age groups, except for age group 45-49 where their performance is the lowest, they rank higher than the other ethnic groups except for being a shade lower than the Sri Lanka Moors. The low fertility of the Indian Tamil women of the 45-49 age group may be accounted by their belonging to the earlier cohorts affected by the period of neglect. Above all, the rise in the fertility rates of the Indian women in 1981 when compared to the other ethnic groups is all the more significant when at the national level one observes a consistently falling trend in

fertility reflected in a lower general fertility rate, total fertility rate and age-specific fertility rates at all age groups between 15-49 in 1981 when compared to 1971. This overall change in direction in fertility observed amongst the Indian women is highly significant viewed in the background of the persistent falling trends that prevailed between 1953 to 1971.

All such evidence of a change in their fertility behaviour may suggest support for the Malthusian principle of population, as applied to this segment of the population, as within it is embodied the relationship between better times and higher fertility. This example is not cited in isolation, as studies of famine in Europe and in Bangladesh (Stein and Susser, 1978; Mosley, 1979) referred to by Gray (1983:145) show marked decline in the birth rate expected for the period of maximum food shortage. Conversely, approximately nine months after the restoration of food supply, there was a recovery in the birth rate. These seasonal variations may be related to the factors influencing the fecundability amongst women.

The relatively high fertility and mortality pattern now visible amongst the Estate Women would entail them being identified with, and assigned to, the initial stage of the demographic transition process, a stage nevertheless abnormal to national behavioural trends and levels in fertility and mortality. Hence it is necessary to note that the application of the commonly understood inverse relationship between labour force participation and fertility in respect of this population needs to await the stage when this segment of the population on having benefitted by the improvements now underway, proceeds forward into the demographic transition process. In the context in which the Estate population was hitherto placed, this transformation could only be achieved under favourable socio-economic conditions. On achieving it, their demographic behaviour should more closely align with that

of the rest of the country's population. Until and unless that stage is reached, the impressive labour force participation rates now represented by the estate women *vis-a-vis* their fertility should continue to be regarded as behaviour of an aberrant nature.

5.3 Apparent Demographic Effects of Societal Uplift

All in all, the change in the political milieu and the significant social transformation brought into effect from the late seventies by the provision of better life to the Estate population first showed effects on fertility by initially raising its levels from a low position caused by sub-fecundity, before reaching a stage of stability. Hence the desired function of social change has shown consequences of a differing nature on populations in Sri Lanka. The transformation process saw the lowering of fertility amongst those sub-groups of population whose health and nutritional levels were normal and initially raised it amongst those who were hitherto ill nourished and neglected. Both were however an outcome of the provision of better life through welfare measures, but however came to be manifested in showing opposing effects on fertility performance (Fig. 5.2).

Looking at recent demographic statistics presented by the Sri Lanka State Plantation Corporation in its Statistical Report and Analysis of Social Development (1991), the Estate population seem to have now passed the threshold stage and now show a trend towards stability. Table 5.10 shows that the crude birth rate, after having risen to levels above 30 per thousand live births in the early eighties, began to decline quite sharply from the mid-eighties. Moreover, the overall improvement in the living conditions, and the introduction and the close monitoring of the expanded programmes of immunization and of health care and sanitation,

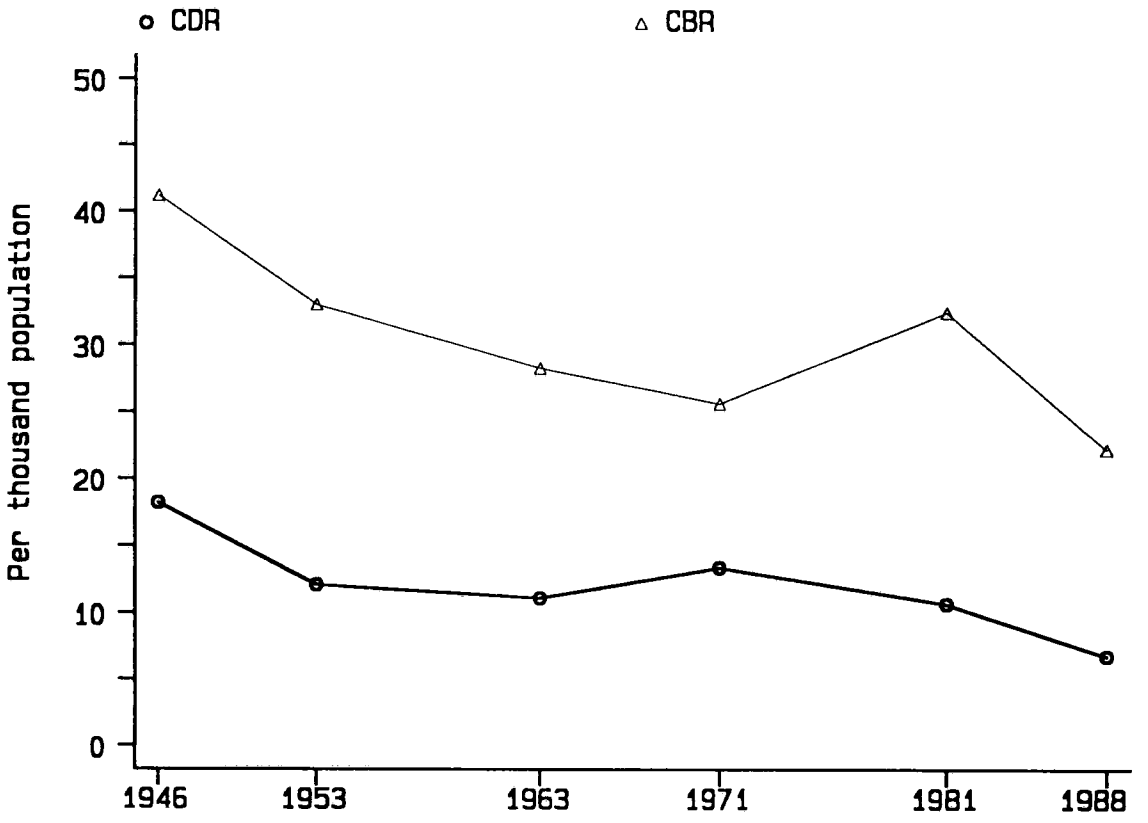


Figure 5.2 Changing Fertility and Mortality of Estate Population

Table 5.10: Some Demographic Indicators of Estate Population, Sri Lanka, 1981-1990.

Year	CBR	CDR	IMR	PMR	SBR
1981	32.5	NA	68.7	104.3	73.4
1982	30.2	7.7	74.0	90.7	67.3
1983	31.8	7.4	58.3	84.4	61.8
1984	28.5	7.1	50.1	74.5	55.2
1985	30.6	7.7	44.9	69.5	50.3
1986	26.3	7.5	48.9	82.0	61.6
1987	22.1	7.7	48.3	84.3	61.6
1988	22.3	6.8	33.9	65.3	51.5
1989	20.4	NA	33.9	59.4	44.9
1990	17.6	NA	31.0	59.0	45.6

CBR-Crude Birth Rate; CDR-Crude Death Rate; IMR-Infant Mortality Rate; PMR-Peri-natal Mortality Rate; SBR-Still Birth Rate

Source: Statistical Report and Analysis of Social Development 1980-90, Sri Lanka State Plantations Corporation, Colombo: 1991.

is seen reflected in the recent decline in mortality rates, including the crude death rate, infant mortality and peri-natal mortality rate. The marked declines seen in both the peri-natal mortality rates and the still birth rates are evidence of the improvements undergone in respect of maternal health and care, enabling thereby mothers to carry conception to a stage of live birth without foetal loss, followed by a greater survival rate of children. The process of transformation has helped remove the aberrant demographic behavioural patterns that prevailed when the

Estate population remained out of the orbit of the developmental process.

5.4 Conclusion

Thus, societal deprivation which kept this segment of the population in an infecund state, incapable of going through the normal reproductive process, kept showing lower fertility performance. Going by conventional demographic interpretation, it forms an index of the degree of progress made by the population through modernization and the resultant betterment in the standards of living. The truth however remained in the underlying negative factors of life in the plantations. The " impressive " fertility behaviour thus came to be recorded as a strange behaviour in demographic parlance. The process of social change and the concomitant uplift in life which kept permeating the Estate population from the late seventies brought to bear a transition showing initially an upturn in the fertility performance during the early eighties, indicative of an improvement in their capacity to reproduce. This process, on having enabled the population to reach its threshold in fertility performance, showed signs of a decline thereafter, a pattern that conforms with commonly accepted demographic behaviour of populations. Similar declines also came to be recorded in respect of the different mortality rates.

Chapter VI

The Urban Outlook: An Invisible Agent in the Fertility Transition Course

The writer wishes at the outset to clear any misconception that may possibly arise in the minds of readers as to what "Urban Outlook" would tend to convey.

With Urbanization generally associated and identified with industrialization and higher standards of living, the term "Urban Outlook" denotes traits in the population that prevail amongst those having reached a stage of sophistication in outlook. By and large it refers to the modern lifestyles and the perceived outlook arising therefrom. It is not meant to connote a brand of thinking that essentially goes along with those living within urban entities. Rather it is a stage in the process of development and modernization that a population has attained independent of the residential status they carry in a census or survey exercise. Basically they refer to a line of thinking that a population has imbibed with its accompanying outlook, attitudes and lifestyles associated with higher standards of living and modernization and not necessarily confined to populations living in areal entities regarded as urban.

6.1 Introduction

In Sri Lanka, although 22 per cent of the population is regarded as urban, the urban quality of life, urbanity and the outlook that is popularly associated with urbanism is far more widespread and stretches beyond the boundaries deemed as

urban. Hence the relevance of this chapter is not so much as to bring out the patterns and processes of urbanization *per se* in the country, rather it is intended to highlight the social transformation that has permeated the Sri Lankan society, independent of the urban-rural segmentalization laid down for administrative purposes.

By urbanization is meant the growth in the proportion of persons living in urban centres. But the term urban is popularly perceived to refer to an area that is to be identified with the process of industrialization and more specifically with modernization, as it is regarded as an area served by urban amenities and services different from the rural areas. Accompanying the above are the life styles and the outlook associated with those living within urban areas. An urban dweller has necessarily to be recognised as one who is part of the modern sector. However, most urban areas have constraints and problems, especially associated with high costs of living arising from the difficulties of housing, transportation and schooling and others related to people's sustenance. These difficult conditions could result in couples wanting to limit their family size. Therefore, this outlook could be regarded as springing from modernization and from the life styles associated with it as well as from the difficulties that families encounter by living in an urban environment.

Urbanization is measured and adjudged by the growing numbers within the urban centre. Therefore in theory, the pace of urbanization becomes an index of the headway a region is making in this direction. It is relevant at this juncture to understand the mechanism that contributes to this growth which in turn reflects the degree of urbanization. In the Sri Lanka situation we can identify three major processes:

1. Rural to urban migration

2. Natural increase within urban centres

3. Reclassification and annexation of territory

The above processes are those that are active in bringing forth the changes which enable an area to attain the urban status or contribute to intensifying the process of urbanization over a period of time. It is now pertinent to evaluate how far such processes deliver to urban areas the desired level of modernization, technological efficiency, and the accompanying degree of economic development, because the degree of urbanization brought forth by the above processes is by far the most important characteristic of urbanization in general. In fact the outcome is deemed as a fundamental trait of society as it bears a very close relationship with other characteristics such as the level of industrialization, mortality, fertility, literacy and education. Generally, economic development is regarded as a precursor to urbanization. However, although countries in the developing parts of the world are undergoing a rapid process of urbanization, it is doubtful whether it is an outcome of and need be associated with the correlates mentioned above, which most countries of Western Europe, North America, and Oceania underwent when the processes of urbanization were operative there.

The process that is commonly identified amongst the countries of South and South East Asia, especially in India, Pakistan, Bangladesh, Burma and Thailand, is that of over-urbanization caused by large-scale rural to urban migration. In these tropical lands,where the level of urbanization is low, urban growth is taking place at a much faster rate than in Western Europe or North America. The trends seen in this direction are revealed in the alarming increase in the proportion of

the population of the large cities of the world. In 1950, amongst the first ten largest cities in the world, seven were from the developed countries of the U.K, U.S.A, Germany, France, U.S.S.R. and Japan. By 1984, Tokyo-Yokohama and New York-N.E. Jersey were the only two cities from the developed world amongst the first ten largest cities of the world. The United Nations projections for the year 2000 indicate that the same two cities would remain within the first ten but would be holding lower ranks in respect of population size as cities from the developing countries like India and South America would graduate to positions of higher ranks in population size. Thus the future is foreseen as one where there would only be cities from the developing countries of India, China, South and Central America amongst the first ten largest population concentrations in the world. Hence it is a process which, despite swelling the numbers within the territory demarcated as urban, unfortunately is not related to the factors that contributed to urbanization in the West, and thereby fails to become an index or measure of the progress made in the said direction. This is because in the process of this ill-planned influx, the cities become disproportionately large but those living within do not form the truly urban population.

Therefore the greater pace of urbanization does not necessarily mean an impressive degree of modernization, mainly due to the fact that the modern industrial urban sector adopts labour saving technology and does not have the capacity to absorb the migrants, or the natural increase in the urban areas. Hence the influx of migrants adds to the already existing pressure on the labour market, and they fail to pick up jobs and end up adding to the pool of unemployed and aggravate the problem by this deceptive process of urbanization. For example the shanty dwellers in the city of Bombay (where the writer spent an year on a population

studies programme), though geographically living in an urban entity, are miserably poor and strive to eke out an existence by hawking or by working in markets as porters pushing hand-carts heavily laden with goods to earn a pittance. The outlook of this so-called urban dweller cannot by any measure be associated with truly urban traits, and such migrants have many affinities with the rural poor. Although this process of migration from the rural areas does still remain the dominant factor in urban growth, it is partly due to the push factor administered by the economic state of the countryside rather than the dynamic attraction of the city. It is because by and large the migrants are unskilled and uneducated and they form a poor substratum of the urban society, dependent on casual work. Consequently, their road to modernization becomes long, weary and bleak. It is unfortunate that these migrants get attracted by superficial cash incomes in the city and decide to desert subsistence farming which could at least house them in more congenial environs in the villages. By moving to the city they get pushed into living in slums and in squatter settlements housed in shanties and shacks, thereby adding to the health hazards of the city. Therefore, this process of urbanization succeeds only in providing a very deceptive picture of urbanization, as those who move into urban areas do not necessarily become the truly urban dwellers.

Hence the question needs to be posed as to how much of this process brings forth the accompanying changes popularly identified with and running alongside a lifestyle that would contribute to lower fertility. More crucial is not the degree of urbanization and over-urbanization brought to fruition by the above processes but the outlook and the accompanying lifestyles which would determine fertility behaviour immaterial of the residence being rural or urban. Hence one has to act with much caution especially in a developing context, not to infer the pace and

degree of urbanization *per se* as signalling progress. In any case, census definitions of urban status vary immensely around the world, impeding international comparisons, especially when they are confined to mere numbers.

Generally, for regarding an area as urban, census authorities adhere to a criterion associated with a minimum size of population which acts as a cut-off. This criterion however cannot have universal application, solely because areas deemed as urban vary greatly in population numbers; in the United States it is 2500, in Ghana the figure is 5000, European countries like Spain and Switzerland have laid 10,000 as the limit. In India they adopt a combination of criteria whereby size, density and the employment characteristics of the population are reckoned in determining an area as urban. In Japan, with a combination of limited land and considerable population, most settlements tend to be large and hence the cut-off is a population of 30,000. At the other end of the scale are Scandinavian countries which due to its physical layout, permanent settlements of 200 and above are regarded as urban. Elsewhere, administrative status is sometimes used in definitions. Hence, countries whether they are in a developed situation or in a developing situation do have and recognize certain segments of their population as urban. However what is deemed urban tends to vary considerably in the different countries because of the differing urban definitions that had evolved in the said situations as to what is urban.

6.2 The Urban Scene in Sri Lanka

Given a position where there are multifaceted definitions and concepts applied to define urban in the countries of the world, it is necessary to define what is urban in the Sri Lankan context. The census classification of urban in Sri Lanka refers to those areas which hold the local government administrative status of Municipal

Council, Urban Council and Town Council, with Municipal Councils being placed highest in the hierarchy and the Town Councils at the lower end being basically upgraded Village Councils. Therefore in the Sri Lankan situation, the size and concentration of population are not used as a criterion in determining urban places, rather it is the administrative function which always has political significance and was historically the basic criterion that came to be adopted in determining places as urban or not. This system leads to certain inherent inadequacies when attempting to demarcate urban spread in the country.

When urban status is conferred by the minister handling the Local Government portfolio, a considerable degree of ministerial discretion comes into play in the process of executing this function. In this regard it could be seen that in Sri Lanka the local government area concept is given application, a practice that is current in Scandinavia and in many of the countries of the British Commonwealth of nations. Despite a common allegiance to this system, the criteria adopted vary a great deal from country to country, being generally population size, its density and the presence of urban services associated with administrative infrastructure such as banks, schools, hospitals along with urban amenities like electricity, pipe borne water etc. If population size, which is reckoned as a valid measure in classifying areas as urban, is applied to Sri Lanka, serious anomalies emerge. Glaring inconsistencies are uncovered on looking at specific examples of urban places in respect of population size and concentration. For example, the urban place Kaduganawa located in the central highlands of the country holds the Urban Council status with only a population of 1493, which is the lowest population size amongst all 132 urban places in the country yet accorded second rank in the urban hierarchy. In contrast a Town Council like Battaramulla which occupies the third and the

lowest category in the urban hierarchy has a much higher population of 56,535 and hence is ranked 9th in respect of population size. Similarly, there are other urban places like Moratuwa with a population as high as 134,826 and a density of 10,214 persons per square kilometre but which holds only the Urban Council status, the second category in the hierarchy of urban places in the country. Inconsistencies in this regard become more conspicuous on comparing population size and densities of those urban places which belong to the highest in the hierarchy. Batticaloa in the eastern province of the country has a population of 42,963 and a density of 2588 persons per square kilometre and Ratnapura in the south western quadrant of the island with a population of 37,497 and with a density of only 1856 persons per square kilometre are both in the city status category of Municipal Councils, but occupy only ranks 15th and 20th respectively in population size. Similarly, Nuwara Eliya, a holiday resort in the central highlands with a population of only 20,471 and a density of 1364 persons per square kilometre, again holds the city status but is ranked 42nd in population numbers.

These examples adequately spell out the degree of inconsistency prevalent in the criterion adopted which disregards reckoning both the size and concentration of population in determining urban places in Sri Lanka. Above all, there are areas which hold a rural status due to the fact that they are under the local government administration of Village Councils but have population numbers much larger than those regarded as urban in the classification. They are essentially areas bordering those deemed as urban but are not ranked urban despite their having population numbers far above some of those centres granted urban status and thus demonstrating a pattern akin to an urban settlement. All in all, they refute the accepted connotation that urban places have more people than rural areas and that a rural

area graduates to an urban place at some point along the population size continuum of settlements. Therefore the besetting problem that is associated with urbanization in Sri Lanka is its under estimation resulting in the existence of "urban areas" which are devoid of an urban identity. Accordingly, the Town and Country Planning department aptly refers to this situation by stating that there are many " urbanized villages " with populations exceeding 5000 with developed socio-civic institutions such as transportation facilities, electricity and other urban amenities but which have yet to be accorded the urban status. Therefore in population size they are all to be regarded as urbanized villages, making the present picture of " rural " highly fallacious.

Accordingly, what is indicated as urban population in the censuses only reflects arbitrary governmental decision making and neither reflects the urban scene nor expresses the social transformation that is now in force in Sri Lanka. Therefore, granting that the urban population in general has a restrained fertility behaviour, the census figures of urbanization in Sri Lanka would all the more paint a deceptive picture when attempting to establish any relationship between the proportion urban and the country's fertility performance.

It is basically a situation where the process of urbanization may prove to be statistically insignificant but in real terms its impact may be substantial. Therefore, despite this understated situation in Sri Lanka, the population adopts the approach and outlook akin to those norms laid down by the urban dweller. Hence it is necessary to associate this outlook or what has now come to be accepted as "urbanism" not only to those living within the territorial limits defined as urban but to those outside its walls as well. These trends have been achieved, amongst others, through the facility provided by modern transport whereby those in em-

ployment in the urban areas could commute from the country setting and vice versa.

Arising from the above , it is hard to differentiate between "urban" and "rural" in Sri Lanka. People who live in some so-called rural areas enjoy urban benefits: they live in an urban atmosphere with an urban outlook. The country, having been exposed to four and a half centuries of European rule, benefited from an infrastructure for transportation through the provision of an efficient network of roads and railways. There was a compelling need to provide these services so as to make the coffee and later the tea plantations viable economic ventures. The provision of these services had desirable effects on the population as no part of the island country could be declared remote and cut-off from the mainstream of knowledge and activity. Such features coupled with the country being small (64,453 sq. km.) had meant that the average person in a remote Sri Lankan village is considerably well informed and has a greater awareness than his counterpart in many other parts of the Asian region. With the passage of time the presence of such efficient transportation in the country allowed an increasing separation between the place of work and the place of residence. This meant that the ideals associated with urbanism, or in other words an increase in the urban quality, tended to spread widely. However, it is not a case of spreading out the effective limits of the city but it involves the spread of the urban traits from the core areas to the periphery which does not possess an accepted urban identity. It is by the process of western urbanization that the urban-rural differences were made less meaningful. The effective links brought forth by the transportation and communication network made the place of residence lose some or all of its significance as a formulative influence upon attitudes, values and behaviour. However some traditional behavioural

traits related to religion and culture may stay embedded in rural enclaves without infringing upon the life styles which have become ambiguous between the rural and urban areas. Urban-rural differentials under such circumstances have become blurred and less meaningful. The upshot of the above is that in the Sri Lankan situation it is necessary to identify urban as a quality regardless of associating it with urban as an entity because the urban outlook disseminated if not diffused into areas which are not administratively regarded as urban.

The above argument would lead one to contend that there is a convergence in the line of thinking, and in the attitudes and outlook to life between those living within areas demarcated as urban and rural. Amongst other agents which need to be mentioned towards contributing to these developments are the effective and sensitive mass media especially the efficient distribution of the newspapers in the three different languages spoken in the country, the Sri Lanka Broadcasting Corporation (SLBC) and Rupavahini, the national television network which have all helped in disseminating the message of modernization and development deep into the countryside.

6.3 Urbanization: A Status Accorded not Achieved

Evidence related to the process of urbanization over the years in Sri Lanka would tend to lend added support to the prevalence of these converging traits amongst the populations classified as urban and rural. The arbitrary nature of the transformation from rural to urban highlights the fact that, what graduates into being urban is an outcome of an overnight process, meaning thereby that all villages (rural areas) could be deemed as " potential " urban areas awaiting only the administrator's decision to " convert " them. This, coupled with those closely

Table 6.1: Growth of Urban Areas and Urban Population, 1881-1981, Sri Lanka

Census	Urban	Percent by Type			Percent	Percent Increase	
Year	Units	M.C.	U.C	T.C.	Urban	Total Population	Urban Population
1871	19	36.8	63.2	-	10.8	-	-
1881	20	35.0	65.0	-	10.2	15.0	7.9
1891	20	35.0	65.0	-	10.7	9.0	14.4
1901	28	26.4	73.6	-	11.6	18.6	28.8
1911	37	19.6	80.4	-	13.2	15.2	31.1
1921	42	17.0	83.0	-	14.2	9.5	17.5
1931	42	17.0	83.0	-	13.9	18.0	15.6
1946	42	17.0	83.0	-	15.4	25.4	38.8
1953	43	16.3	83.7	-	15.3	21.6	21.1
1963	90	7.8	40.0	52.2	19.1	30.7	62.7
1971	135	8.9	26.7	64.4	22.4	19.9	41.3
1981	134	9.0	29.1	61.9	21.5	17.0	12.2

MC- Municipal Council; UC- Urban Council; TC- Town Council

Source: Population Problems of Sri Lanka, Demographic Training and Research Unit, University of Colombo, p. 106; Census of Population and Housing 1981, General Report, Vol. 3, Table A.3

identified with definitional and boundary changes which kept occurring from time to time, establishes that the rural-urban dichotomy in Sri Lanka is more apparent than real. In 1901, alongside the Municipal Councils and the Urban Councils, a new urban entity, named the Local Board was created only to be abolished in 1953, when the new category, the Town Councils were introduced into the hierarchy. Accordingly, Table 6.1 shows that the rapid pace of urbanization observed therafter

is not an outcome of the trends in urbanization *per se*, but it is only a reflection of the *modus operandi* in force in bringing this into operation. For example, between the 1953-63 and the 1963-71 intercensal periods, the rate of growth of the urban population has been much faster than the rate of growth of the national population. This phenomenal spurt in the process of urbanization is not sequel to any visible spatial graduation process which entitles settlements to be elevated to a position urban, but it had been purely an outcome of arbitrary administrative manipulations whereby villages were re-classified and raised to town status. It was the period when the Town Councils were first created and the general criterion adopted was the 2000 population limit and it is their creation which increased the urban class in Sri Lanka. The outcome of it all was that the number of places classified as " urban " increased from 43 in 1953 to 90 in 1963 and to 135 in 1971. Later, during the 1971-81 intercensal period, there was a decrease in the number of urban areas, caused by equally arbitrary administrative decision-making which abolished the two Town Councils Bandaragama and Mawathagama both situated in the populated, urbanized south western quadrant of the island. They were both stripped of their urban status and were excluded from the urban hierarchy and were identified with those regarded as rural. As a result, the proportion urban in the country dropped from 22.4 to 21.5 per cent (Table 6.1). This development aside, it is clear from available data that during the 1971-81 period, the rural component has been gradually on the rise. This is an outcome of the urban to rural movement of the population which is discussed later in the light of the development efforts undertaken in the country.

Therefore, on sharpening one's focus on the process of urbanization in the country, these spurious fluctuations in its pace need to be regarded as only admin-

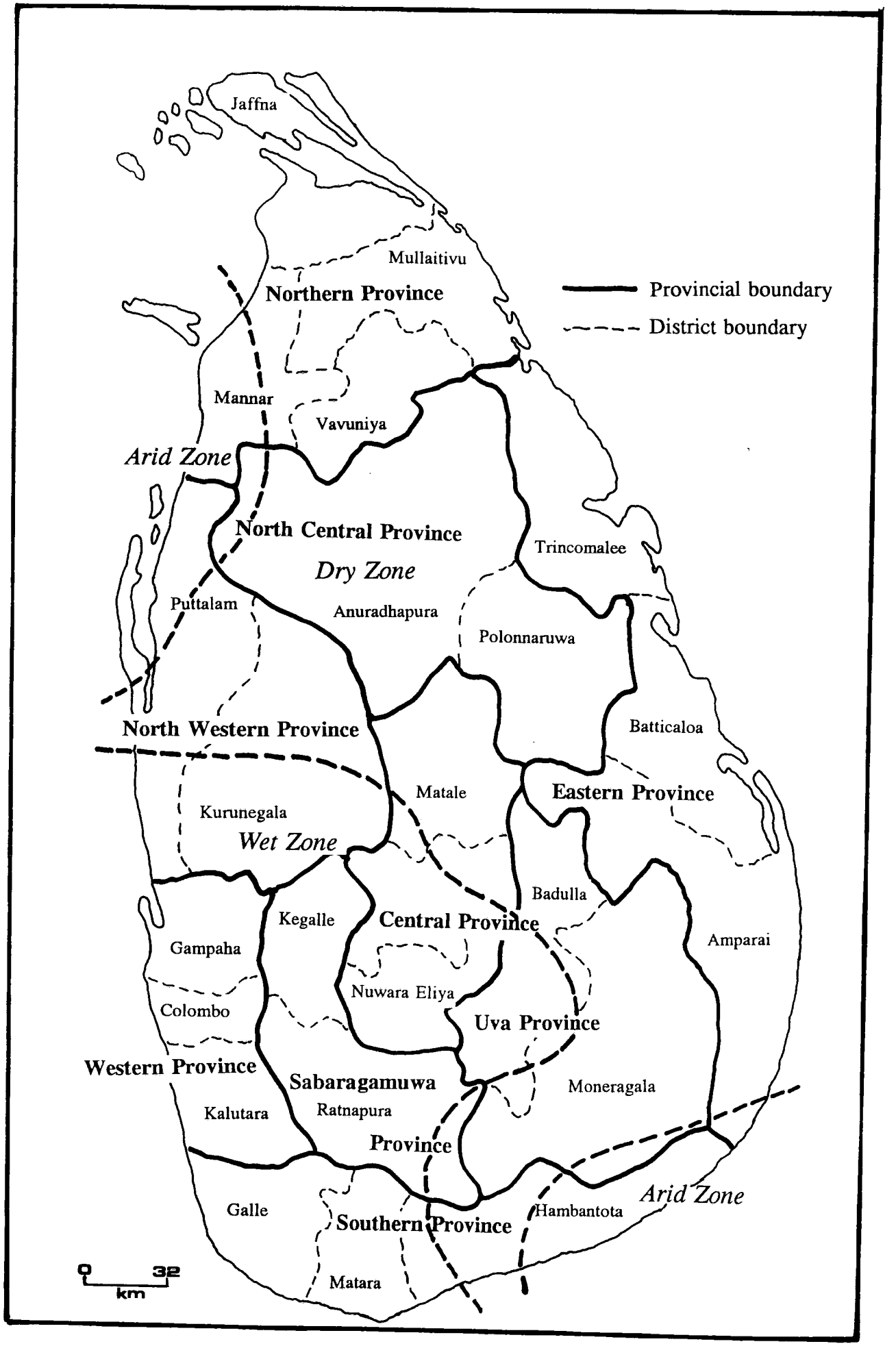
istrative records which may not be necessarily portraying the truly urban picture nor the attributes popularly associated with the realm of urbanization in general.

6.4 Mortality Evidence: A Stamp of Modernization

Further evidence in support of the contended urban outlook in the rural areas may be drawn from the mortality patterns prevalent in the urban and rural areas of the country. Amongst nations both developed and developing, Sri Lanka occupies a position of fame for both the rapidity of post-war mortality decline and for the current impressive death rate of 5.9 per thousand population (which is lower than the U.S.) and the concomitant life expectancy of 70 years and 74 years for males and females respectively along with an infant mortality rate of 24 per thousand live births in the population.

Reference is now being made to declines, because the specific task is to establish the ineffective role played by urban / rural residence due to the prevalence of much better health amongst the population, consequent upon the widespread provision of modern health facilities. One method of discerning this role would be to look at mortality indicators by urban-rural residence, but unfortunately figures so classified are not available. This problem aside, in the event of going by records of death maintained at urban and rural locations where the event occurs, they could yet fail to bring out the prevailing residential trends and patterns because a rural death could always occur in a hospital located in an urban area. This is because areas demarcated as rural are not far away from being reached and served by a District or Base hospital equipped with modern health services. Therefore, it would result in portraying a very inaccurate picture of the mortality pattern. Above all, the constant changes in the boundaries of areas demarcated as urban

Figure 6.1 Provinces, Districts and Climatic Zones in Sri Lanka



and rural would further complicate matters and make it difficult to determine the accurate denominator for calculating mortality rates. To circumvent this problem, data on events at the district level could be used. The approach would involve identifying districts which are predominantly urban and others which are rural, going by the proportions of urban and rural populations living within them. Therefore, a spatially representative sample of districts with predominantly rural population and those with a predominance of urban residence may be chosen so as to make comparisons of mortality rates. These figures may be derived from the vital registration system data provided by the Department of Census and Statistics.

In selecting the districts with a predominantly urban population, those which ranked the first three with proportions urban were chosen so as to represent the urban sample. The largest proportion of urban population in the country live in the District of Colombo with an urban component of 74.4 per cent of the total. There is a wide gap thereafter between Colombo and the next urban place in rank, which is Jaffna in the north of the country with 32.6 per cent urban. The district which ranks third is Trincomalee situated in the east with 32.3 per cent urban. All other districts with rural proportions of the population ranging from 72 to above 96 per cent need to be regarded as rural by category and not by nature (Fig. 6.1)

In choosing the five districts to represent the rural areas, due consideration was given to two aspects, firstly the selection was made of those districts which had a very high proportion of population classified as rural, and secondly care was taken in seeing that they had a spread in the country so as to help establish the pervasive nature of the urban outlook in the country. Moneragala was chosen with 97.8 per cent of the population regarded as rural and it is the district with the lowest proportion of the population urban in the country. Climatically, it

is within the dry zone uplands and located on the leeward side and in the rain shadow of rain-bearing south west monsoon and could be regarded as providing coverage for the south eastern sections of the country. The next is Kurunegala, a predominantly coconut growing district with 96.4 per cent rural population, and located in the moist south western quadrant of the country and on the windward side of the south west monsoon. Thirdly, the Polonnaruwa district in the north central province with 92.2 per cent of the population rural is located in the dry zone and fed by the north east monsoon rains; it forms a rice growing district supported both by the seasonal monsoonal rainfall and by irrigation. Fourthly, the district of Hambantota, a location in the arid zone of the country, as it is out of the path of both the south west and the north east monsoons with an annual rainfall of less than 40 inches, and has 90.2 per cent of the population regarded as rural. All the four districts named above are populated predominantly by the Sinhalese who form more than 90 per cent of the population. Finally, Mannar district which is situated in the north west of the country, again a location outside the path of the monsoons with 87 per cent of the population rural, with the Tamil and the Muslim communities together forming 90 per cent of the population.

The above rural selection, not only has a spread in the country, but also represents the different ethnic groups and climatic zones. Districts in the central hill country were not chosen for comparison, purely because it comprises of plantation districts, populated predominantly by the Indian Estate labour whose mortality and fertility behaviour is atypical in nature and does not align with the rest of the country's population as welfare measures of the government in respect of health, education and food have not always reached them, for reasons dealt with in an earlier chapter. They form an enclave, governed by a very different set of socio-

economic conditions and norms. In the light of such circumstances surrounding them, any comparisons of their mortality patterns with those of the rest of the population would necessarily tend to show aberrent characteristics which would tend to cloud the general societal norms and behaviour prevalent in the country.

Moreover, comparisons need to be restricted in time. From the early eighties militancy and ethnic conflicts dominated the political scene in the country, both in the north as well as in the south of the country for different reasons. There were mass killings in the south in the early eighties due to ethnic violence followed by another wave of killings and counter killings to quell the wave of militancy articulated by Sinhalese extremists. The pattern in the north does however continue to persist with the problem yet remaining unresolved. Hence, the mortality rates resulting from these upheavals should not be regarded as those reflecting the outlook under review. It is best that the analysis of events be confined to the period when relative calm prevailed with the provision of services being normal and when only natural causes formed the determinants of the mortality trends and patterns in the country.

Table 6.2 shows crude death rates for the selected three urban and five rural districts in the country, a choice based purely on the proportion of populations with urban and rural residences. The figures reveal that there is little or no relationship between the residential status of the districts and the death rates. Strangely, the three urban districts show higher death rates than Moneragala which has the highest rural population (97.8 per cent) and the lowest death rate of all. The other districts with predominantly rural populations also record significantly low death rates. The eradication of malaria in the forties and the pervasive nature of the efficient health and sanitary services throughout the country could be the reasons

Table: 6.2 Crude Death Rate by Residence, Sri Lanka, 1985

District Type	Proportion Rural	C D R
Predominantly Urban		
Colombo	25.6	8.7
Jaffna	67.4	4.7
Trincomalee	67.7	4.0
Predominantly Rural		
Moneragala	97.8	3.2
Kurunegala	96.4	6.1
Polonnaruwa	92.2	4.1
Hambantota	90.2	4.2
Mannar	86.9	4.4

Source: Department of Census & Statistics and the Statistical Unit,
Registrar General's Dept., Colombo, Sri Lanka

accounting for these impressive mortality rates.

6.5 The Health Service: Its Network and Spread

In this regard, emphasis needs to be made of the fact that all aspects in the provision of an effective health care system were built into the health service. It was a complete package which included the curative, preventive and the associated extension services, meant to educate the population on matters pertaining to health. Under the curative arm of the service, there were provincial hospitals located in major cities providing specialized services in all branches of medicine. There were in addition, base hospitals and district hospitals in the districts along

with rural hospitals, peripheral units and dispensaries in intermediate locations, providing both indoor and outdoor treatment and which were all well spread out in the country. This network of hospitals meant engaging doctors who ranged from consultants to house officers, assistant medical practitioners (named earlier as apothecaries) nurses, attendants and a chain of supporting staff. The curative segment of the services are also available through private practitioners in private nursing homes and in hospitals. These services are provided by both those practising western medicine and ayurveda (traditional medicine). Private hospitals and nursing homes are spread out both in the cities as well as in the suburbs of the country. There are doctors exclusively engaged in private practice but the facility is also provided for those in government service to serve side by side in the private sector of the service. Such services are available in the so-called rural areas as well, where one could at least locate a practice run by an assistant medical practitioner or an ayurvedic physician.

Medical Colleges in the universities in Colombo, the capital, Peradeniya in the central highlands, Jaffna in the north and in Matara in the south of the country train the doctors. There are nursing schools in the major cities which look after the nurses' training programmes. Alongside this machinery which formed the curative arm of the service, was the other major segment of the health service that undertook the preventive aspects. In its network of activities, the entire island was covered by Medical Officers of Health (M.O.H) assisted by a team of Public Health Inspectors (P.H.I), (who were earlier named as sanitary inspectors) and midwives. The preventive personnel not only monitored and created an awareness on matters related to cleanliness and personal hygiene but also looked after the ante-natal and post-natal aspects of care. The midwives attended on home de-

liveries of babies and took care of the maternal and child care aspects of health. Furthermore, immunization programmes aimed especially at preventing the occurrence of diptheria, whooping cough and polio along with hookworm treatment were administered to children. There were in addition school medical officers, who visited schools to monitor the health status of the school population. Over and above offering such curative and preventive services, there are promotional aspects of the service, providing health education to the people.

Alongside the provision of this array of Western medical facilities, there is indigenous medicine which has recently received a fillip from the government. There are ayurvedic doctors who have been trained by the Ayurvedic Medical College and also those who have acquired their skills from father to son. This system of treatment basically involves less surgery and more treatment through herbal decoctions and oils for external application.

As for urban-rural differentials of these services, the national census revealed the unusual fact that more than 52 per cent of the medically qualified personnel and related workers were in the rural sector, and of the ayurvedic physicians offering indigenous medical services more than 71 per cent were located in the rural areas. Looking at the picture in its totality, it was revealed that over one third of the medical doctors were serving in the rural areas. Hence, in Sri Lanka, those areas declared as rural are well covered by the availability of health personnel, both doctors and paramedics coupled with the health accompanying services. Given all these expanding and improving services to a population that is highly health conscious, literate and receptive to them, impressively low mortality levels came to be widespread in the country.

With the above pattern of health service widespread in the country, one cannot find any notable improvement in mortality in areas demarcated as urban compared with those that are designated rural. On the contrary, the mortality behaviour seems insensitive to the prevalent urban-rural division, as there does not seem to be any differential identified with the residential characteristics (Table 6.1). What needs to be deemed as contributing to this pattern, is the sense of awareness and the resultant outlook of the people at the demand end which is supported by an effective health service at the supply end. Therefore, reasons for these trends lie mainly in the outlook and the attitudes of the people independent of where they live. Hence, one cannot dichotomize the outlook so as to identify any differential behaviour amongst those living in the urban and rural areas. What one sees in Sri Lanka is an outlook associated with urbanism, whereby it becomes necessary to establish linkages with modernization, and such an outlook has contributed in bringing forth the desired effects on mortality. This outlook stems from education coupled with the widespread approach and attitude to morbidity and mortality which is one of wanting to prevent and avoid rather than succumb to it.

Under the above setting, it is hard to discern the difference between "urban" and "rural" in Sri Lanka, as people who live in the so called rural areas do enjoy urban benefits and live in an urban atmosphere with an urban outlook. The residential environment in which one lives is of less importance than the outlook. Therefore, the success for the prevalence of a widespread low death rate is not only to be attributed to the availability of modern medical facilities and services. The overriding factor in this respect is a deep seated quality of the population that is extremely sensitive and conscious of sickness and also aware of the remedial measures that need to be taken to overcome it. It is a trait inbuilt into the Sri Lankan

society and unrelated to the urban-rural settings. These attributes are undoubtedly an outcome of other achievements of the population in respect of literacy, especially amongst the females, which has helped in the effective utilization of the health services to combat death. Above all, not to be negligent and take chances when one is ill and treatment is warranted. The people are used to getting the maximum utilization of the services provided and they tend to disapprove of any lapses on the part of the medical services. This attitude often leads to complaints and petitions being forwarded to the higher authorities manning the service. Such channels of action keeps the medical personnel alert and not negligent in their duty to the patients.

This is in sharp contrast to what the writer observed during his four year sojourn in northern Nigeria, where the morbid state and its culmination in death is taken so lightly and regarded as part of God's intention to call one over to his kingdom. In this regard, reference may be made to an incident in a village school in Mongono, situated in the northern state of Borno in Nigeria, where during a friendly scuffle in a classroom amongst boys, one of them had a severe fall with the head alighting on furniture made of hard wood. The boy became unconscious and soon he was dead. The school authorities were shocked by the terrible incident and had to inform the parents of the boy who happened to live about 600 kilometres away. A Sri Lankan teacher attached to this school along with a colleague of his was assigned this task by the Principal. With the view to preserving the boy's body, it was taken to the closest teaching hospital mortuary situated in Maiduguri, the capital of Borno State. Thereafter, the teachers proceeded to meet the parents. Having reached them after a long drawn out journey, they had to perform the painful duty of narrating the dreadful incident to the father of the

boy. On hearing of his son's demise and the circumstances that led to it, to the astonishment of the teacher he had questioned as to why they had carried his son's remains to the morgue in Maiduguri as he felt that they ought to have buried his son's remains in Mongono once he was pronounced dead. He had then called one of the male inmates of his household to accompany the school teachers back, so as to help them with the burial formalities.

There was another case in the same state in Nigeria, where a very senior government official collapsed while presiding at a conference and on being rushed to the hospital passed away. Those closely associated with the official attended to all the burial exercise and passed the information on to his wife and other members of the household.

These are basically some of the examples of the varying attitudes prevalent amongst the different communities and societal settings. However, the writer wishes to be very emphatic in conveying that they are not cited to discredit any nor to boost another. On the contrary, they are stated with the express intention to bring to light the varied outlook in respect of death prevalent amongst those living in different lands and settings.

6.6 The Urban-Rural Occupational Structure

Examination of the urban-rural occupational structure in the country throws further light on the issue. The occupational classification that is relevant to urban-rural populations would be the one in respect of the distribution of the population engaged in agricultural and non-agricultural occupations. Amongst the former, those engaged in work associated with animal husbandry, forestry, hunting and fishing are included and the residual component is treated as belonging to the

non-agricultural occupations. The conventional approach to interpret this information is on finding the proportions of the population engaged in agricultural and in non-agricultural occupations. Arising from the above, the proportion of workers engaged in non-agricultural pursuits becomes an index of the degree of development in a country and development hereby would mean the degree of involvement in industrial or service pursuits. On looking at the trends holistically in Sri Lanka, those engaged in non-agricultural activities increased by 21.7 per cent in the period 1971 to 1981 with the percentage share rising from 51.2 to 55.2 per cent. These trends for a country identified as agricultural are indeed impressive. Moreover, there has been a 25.2 per cent increase in the population engaged in non-agricultural employment in the rural sector during the aforesaid period, with the proportions engaged rising from 38.5 per cent in 1971 to 42.7 per cent in 1981. This could be regarded as an outcome of the encouragement given to industrial development in the rural areas. A policy outlined towards decentralizing industry had prevented undue concentration of these activities only in the urban areas, a pattern often associated with urban agglomerations. Relevant is the fact that in Sri Lanka well over 75 per cent of those aged 15-64 employed in manufacturing are resident in areas demarcated as rural, largely because most of the industries are either agro-based or are associated with cottage industries which form small production units with locations in the rural settings. These cottage industrial units, turn out a variety of products for tourists. Therefore, in the rural settings of Sri Lanka, there are commercial enterprises and entrepreneurs, very different from those identified with the purely rural subsistence farming activities. Having strayed away from the hand to mouth mode of existence, their outlook tends to have much in common with those of the urban dweller whose linkages are with the modern sector and the behaviour associated with it.

Hence, the rural areas in Sri Lanka do not have the conventional identity of being predominantly agricultural in nature, because their potentialities seem less in that direction and more towards non-agricultural activities. Under such a system, it is likely that there are significant numbers of people in the rural sector engaged in activities such as handicraft making and in trading. With many in the rural sector not leaning purely on farming for a livelihood, an outlook that normally surrounds such an occupational structure surfaces and this in turn helps to produce the transformation under consideration. Generally, when reference is made to urbanization, there are certain changes that accompany this process, namely that of people changing from agricultural occupations to those in industry and services, and a change in residence from rural to urban. In Sri Lanka, reference needs to be made to a situation where people become urbanized without changing their occupational roles and by continuing to live within areas designated as rural. This was possible through the benefits that reached them through the process of technological advancement which helped provide linkages between the centre and the peripheries. In this regard, special mention needs to be made of the contribution made by the development of transport and communication which enabled the dissemination of urbanism beyond urban territorial limits. By and large, the village dweller despite being away from the urban scene came under its influence, the dissemination process being very much enhanced by the mass media. All this meant that those living in the villages were never in isolation and were knowledgeable and came to imbibe the urban outlook which had disseminated outside the confines of the urban entities.

Caldwell *et al* (1989:368) in a recent study in Sri Lanka where they account for the mechanism that contributed to death control state " not only has there been

a diversification of rural employment but there is a great deal of daily and weekly commuting by husbands, wives or adult children to work in the larger towns and especially in Colombo. There is little of the isolation of near-subsistence farming, for almost everyone has contact with the larger society and regards urban facilities including health facilities as part of a common system." This line of thinking, if not the argument finds support in the recent trends observed in those employed in industry in the urban and rural sectors where there has been a shortfall of transport workers in the urban areas and an intercensal increase in the rural areas between 1971 and 1981. This pattern needs essentially to be attributed to more workers in the transport industry being resident in the rural areas in 1981 than in 1971.

Furthermore, Caldwell *et al* (1989) show that in their study area in south west Sri Lanka, there are no urban-rural differentials and they regard the villagers as part of the overall scene. The mixed economy and the mobility of the people had meant their familiarity with towns, and the urban particularities. At the services end they note that the urban-rural and the socio-economic differentials in medical treatment have greatly diminished and that such low mortality would probably have been unattainable if this had not occurred, and regard it as a tribute to the provision of modern services throughout the rural areas and to the urban slums which now form part of the overall scene.

This is observed in looking at the expectation of life at birth and the Physical Quality of Life Index (PQLI)[6] in the urban and rural areas. Table 6.3 shows that the expectation of life at birth of both males and females in most of the rural

[6] The Physical Quality of Life Index is computed by reckoning the literacy, infant mortality and the life expectancy levels of a population.

Table 6.3: Life Expectation at Birth, 1980-82 and PQLI Index, By Residence, Sri Lanka, 1981

District Type	Expectation of Life 1980-82		PQLI
	Male	Female	
Predominantly Urban			
Colombo	64.2	69.9	88.0
Jaffna	69.3	73.7	91.7
Trincomalee	69.3	72.8	87.4
Predominantly Rural			
Moneragala	73.7	75.5	89.7
Kurunegala	67.8	73.3	88.7
Polonnaruwa	71.5	76.5	91.3
Hambantota	72.5	75.8	90.1
Mannar	67.4	69.1	86.2

Source:Population Statistics of Sri Lanka, 1990, Population Information Centre, Population Division, Colombo, Sri Lanka.

districts are higher than that of the urban districts. Moreover, they all show that the female expectations are higher than that of the male, a trend that is expressive of healthy characteristics in the population. Similar features are again reflected on looking at the PQLI figures for the said districts. This index which is a composite measure incorporating infant mortality, life expectancy at age one and literacy, shows no striking disparity among the urban and rural populations. Generally, it indicates that the development efforts have borne fruit, irrespective of the residential status of areas. Therefore it reinforces the fact that in the provision

of social amenities, especially that of free education and health care, there is little or no areal variation thus eliminating the residential discrepancies of these vital indicators. The PQLI at the national level is 87.1 which is far above the levels achieved by other developing countries in the region who showed less than half (40) with the high income countries recording 92.

6.7 Residential Status and Fertility Differentials

Table 6.4: Mean Number of Live Births Ever Born to Mothers, Aged, 15-49 years, Currently in their First Marriage by, Urban & Rural Residence, Sri Lanka, 1971.

Age Group	Both Sectors	Urban	Rural	Urban-Rural Difference	National-Rural Difference
15-19	1.25	1.29	1.24	-0.05	-0.01
20-24	1.95	2.04	1.93	-0.11	-0.02
25-29	3.08	3.03	3.10	0.07	0.02
30-34	4.23	4.02	4.28	0.26	0.05
35-39	5.44	4.94	5.57	0.63	0.13
40-44	5.96	5.36	6.13	0.77	0.17
45-49	6.17	5.61	6.31	0.07	0.14
15-49	4.33	4.06	4.40	0.34	0.07

Source: Derived from B. Hanna and T. Nadarajah " Some Aspects of Fertility Differentials in Sri Lanka," Population Problems of Sri Lanka; Demographic Training & Research Unit, University of Colombo, Colombo, 1976, p. 98.

The urban-rural differential in fertility has been narrowing down over the years. In 1953, the average number of children ever born per ever married woman aged

15-49 was 5.05 for the urban sector and 6.34 for the rural sector. By 1971, it had narrowed down to 4.06 and 4.40 amongst women in the said age span in the urban and rural sectors respectively. Further convincing evidence of converging trends is revealed on looking at the fertility performance of specific age groups within the reproductive span at the national level and by urban-rural residence. Table 6.4 shows that amongst women in the younger age groups of 15-19 and 20-24, the fertility performance of the rural women in 1971 was lower than their urban counterparts. Such fertility performance of the rural women belonging to the younger age groups not only indicates their earlier lower levels of fertility but in addition rightly predicts the narrowing trends to come, on these cohorts entering higher ages. Moreover, the difference in the fertility performance of the age groups 25-29, 30-34, and 35-39 is negligible as the rural women had rates only 0.07, 0.26, and 0.63 higher than their urban counterparts. Differences in performances of both sectors combined were even less significant. They all converged to confirm the ineffective function played by the urban-rural residence in determining fertility levels in Sri Lanka. These patterns reflected the prevalent consistency in outlook in respect of fertility behaviour amongst the population, independent of their residential characteristics. These trends persisted thereafter. Ratnayake *et al* (1984) uncovered evidence in the area of urban-rural fertility by using the own children method of estimating fertility trends for the period 1966-80. Having earlier established converging trends in literacy and in some districts higher levels of it amongst the rural population than those living in the urban areas, they looked for the effects of completed years of schooling of mothers on indices such as the TFR and the MTFR. Table 6.5 shows performances for the period 1966-80 and reveals the narrowing, if not the converging trends with the maximum difference between those resident in the urban and rural areas to be only one child. Moreover, this behaviour is fairly

consistent at all educational levels, thereby reiterating that there was no disparity in respect of the impact that education has had on the urban and rural populations. This is a clear indication of equality in the provision of educational services to those living in the areas delimited as urban and rural.

Table 6.5: Total Fertility Rates and Marital Total Fertility Rates by Completed Years of Schooling of Mothers and by Urban/Rural Residence, Sri Lanka, 1966-80.

Educational Attainment	1966-70				1971-75				1976-80			
	TFR		MTFR		TFR		MTFR		TFR		MTFR	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
0-5	5355	5285	5986	5944	4118	4529	4828	5257	3644	4291	4628	5170
6-10	4306	4332	6688	6682	3227	3697	5148	5639	2632	3358	4255	5113
11 +	3219	3140	6638	6816	2424	2716	5252	5946	1762	2256	3954	5120

Source: Ratnayake *et al.* Fertility Estimates for Sri Lanka.
Colombo:Aitken Spence 1984. pp. 58 & 59.

The Sri Lanka Demographic and Health Survey (SLDHS) carried out in 1987 do reinforces further the narrowing fertility trends between the urban and rural sectors. The major objective of the survey was to estimate fertility levels, trends and differentials. The survey revealed that by residential sectors, the magnitude of the fertility decline between the periods 1981-83 and 1984-86 has been greatest in the rural areas where the TFR dropped from 3.2 to 2.8. Since the rural areas have

the largest proportion of the country's population, they are regarded as having had the greatest impact on the overrall level of fertility in the country. The survey further indicates that the Colombo Metropolitan Area and other urban areas have also experienced fertility declines but somewhat less than the rural areas. The fertility measure children ever born for women 45-49 could be deemed as an index of past or completed fertility, and the survey further reveals that for urban women the mean is 4.9 and for their rural counterparts it was only a mere 0.1 higher at 5.0. These findings do establish the trends that were foreseen as far back as 1971 that women belonging to the younger age cohorts in the rural areas showed fertility performances lower than their counterparts in the urban sector (see Table 6.4).

The survey does help to understand the phenomenon associated with such narrowing trends in fertility since it revealed that the knowledge of at least one or more methods of contraception was widespread amongst the population. Moreover, the sample in general showed that they possessed knowledge of more specific methods and in particular, their knowledge of the most modern methods was found to be very high. Such know-how on contraception had persisted for well over two decades, as findings of the Sri Lanka World Fertility Survey of 1975 revealed that 91 per cent of ever married women knew at least one method of family planning. By 1982, the Sri Lanka Contraceptive Prevalence Survey reported that 99 per cent of ever married women knew of at least one method of contraception. The SLDHS survey revealed the universality in contraceptive knowledge as there are no significant differentials, either by residence or by educational attainment, thereby providing evidence of the prevalence of a uniform outlook independent of the place of residence. The survey findings reveal that 99.8 percent urban and 99.1 percent rural currently married women aged 15-49 possessed knowledge of at least

one modern method of contraception, proving thereby there is no differential in knowledge associated with the current place of residence. In respect of educational background, 93 percent of those who had no education expressed knowledge of modern contraception. Those with primary, secondary and more than secondary levels of education showed 93.3, 95.6 and 99.6 percent knowledge respectively. Although with higher educational attainments they show slightly higher degrees of knowledge, the overall picture is one of a very high degree of contraceptive know-how irrespective of the levels of educational achievements and the nature of the place of residence for they all reported knowledge levels above 93 percent.

Kane and Sivasubramaniam (1989) examined data drawn from the national follow-up survey known as the Sri Lankan Contraceptive Survey (SLCS) conducted in 1985 by the Sri Lanka Department of Census and Statistics. It was again a follow-up study of the Contraceptive Prevalence Survey which the same department carried out in 1982. Their findings were that more than four fifths (81 percent) of urban wives reported that they had discussed family planning with their husbands as did a similar proportion (75 percent) of wives living in rural areas. This is evidence of the converging outlook in respect of fertility and that the associated strategies adopted to limit it had operated rather consistently across both the urban and rural women.

To reiterate the strength of this outlook, it is germane to refer to a study by Retherford *et al* (1989) which basically looked at the strength of the desires amongst rural women to limit fertility through a Rural Family Planning Survey conducted in 1985-86, where 3253 rural women aged under 45 years of age were interviewed. The analysis was however limited to currently married women aged 20-44 who were fecund and not pregnant at the time of the survey. The findings

revealed that the rural sample showed remarkably uniform rates of contraceptive use across demographic and socio-economic variables. The conclusion arrived by the study was that the " rates of contraceptive use are high and indicate that the contraceptive revolution is well on its way to completion ". In this regard, it is necessary to indicate that sterilized women were excluded from the survey , as including them would have shown results indicative of higher contraceptive use.

With receptivity to family planning being high in Sri Lanka, the women knew the source of supply for the methods they practised, especially in respect of the pill, IUD's, injectibles, condoms, and terminal methods like sterilization. The government hospitals, family planning clinics, midwives and nurses play a vital role in providing easy access to these services. About 95 per cent of the female sterilizations (tubectomies) and 78 per cent of male sterilizations (vasectomies) have been performed at government hospitals. In addition to the above, doctors engaged in private practice contribute a great deal in this direction. Above all, the efficient marketing system in the country for some of the products enables an acceptor to purchase a British-made condom with a brand name " preethi ", meaning happiness or wellbeing, in the remotest village boutique. The prevalence of the universality in outlook is evidenced by the fact that Colombo Metropolitan Area and the rural areas had approximately the same rate of 62 per cent current users of contraception. The above widespread pattern of contraceptive acceptors and users may be regarded as a valid measure of the all pervasive nature of the modern outlook in Sri Lanka with little or no differentials amongst the urban and rural populations. Further evidence is shown by preferences of ideal family size desired by women living in the urban and rural areas of the country. Generally, the significant acceptance for contraception indicates a strong desire to limit fertility.

The SLDHS survey findings revealed that the proportion of women who wanted no more children rose from 16 per cent at parity one, to slightly over 60 per cent at parity two and reached 87 per cent amongst those at parity four. These features again reveal very small differentials amongst urban and rural samples of women.

The ideal number of children desired by women is a useful index in determining the outlook that a population holds in respect of ideal family size. Countries which have population policies outlined to keep growth under control, spell out the ideal family size desirable to the nation. China now has adopted a one child family norm in a desperate bid to curb population growth, whereas Singapore discourages numbers beyond two. These are policy measures adopted at the macro level by governments that are facing population problems and bent on a planned programme of development, who do not wish the population factor to stall any efforts taken in that direction. China may be cited as an example of a country which has huge problems caused by growing numbers and hence does not want development efforts to be nullified on that account, and Singapore being a city state is conscious of its limitations with regard to areal extent and wants the numbers manageable so as not to negate the economic success so far achieved. This has to be distinguished from what a population voluntarily perceives as ideal at the micro family level regardless of what has been spelt out by planners and experts. The Sri Lanka Demographic and Health Survey of 1987 included relevant questions to unravel the perception of the women and the norm was found to be in the region of 3 children. Strangely, even women who had families larger than 3 expressed this number as ideal. As in other indicators, the ideal family size showed no real differences between urban and rural. However, women who were below 30 years of age regarded a family size of between 2 and 3 as ideal, an indication that

the younger generation perceive a smaller number of children as forming the ideal family size.

Table 6.6: Singulate Mean Age at Marriage by Completed Years of Schooling of Mothers by Urban-Rural Residence, Sri Lanka, 1971 & 1981.

Educational Attainment	1971			1981		
	Sri Lanka	Urban	Rural	Sri Lanka	Urban	Rural
0-5	21.6	21.6	21.6	22.2	22.8	22.2
6-10	25.1	25.0	25.1	25.2	25.7	25.0
11+	28.0	27.0	28.6	29.2	28.7	29.6

Source: Ratnayake *et al*, Fertility Estimates for Sri Lanka, Colombo: Aitken Spence, 1984, p.60.

The singulate mean age at marriage (SMAM) figures for the urban and rural areas in 1971 and 1981 has interesting revelations. Table 6.6 shows that in 1981, for women who had completed 11 years of schooling and over, the SMAM is higher for the rural sector than for those in the urban sector. At educational levels of 0-5 and 6-10 years of completed schooling, the difference is so negligible, leaving one to wonder whether there is any meaningful differential in respect of SMAM amongst those living in the urban and rural areas of the country. The differential has diminished over the past few decades consequent upon modernization of the rural sector. These processes have now culminated in the rural women showing a higher age at marriage than their urban counterparts, a clear indication of the insignificant functional attributes that could be identified to differentiate the life

styles amongst those living in areas deemed as urban and rural in Sri Lanka.

6.8 Urban Outlook: An Outcome of Developmental Efforts

There tends to be a necessary link between the developmental process and the processes of migration and urbanization in a country. Generally, development strategies mapped out by governments in the developing countries, incorporate policies and programmes that integrate urban and rural development. The normal trend has been to locate industries in small settlements with the aid of rural electrification, the creation of industrial estates and the establishment of new towns, the creation of service centres with the necessary infrastructural support and a variety of other social, cultural, economic, recreational and industrial services. All these together give the population access to a number of amenities that are necessarily associated with urban life and life styles in a rural setting. Land reform, irrigation, rural education and differential systems of taxation are other lines of action suggested by the United Nations. All these steps are essentially aimed at improving the social and economic milieu of the rural areas and at reducing the rapid growth of big cities by a planned approach to divert the surplus labour to smaller cities and towns. The success or failure of these steps are reflected in the impact such measures have in stemming the rural to urban migration or could even go beyond by bringing forth counter-urbanization, whereby the urban area far from attracting tends to impel a movement of the population to the rural setting. This would be in addition to the population already in rural areas continuing to remain contented if not happy where they are.

A building-up process in this direction in Sri Lanka was so long drawn out and its origins may be traced back to the pre-independence era when extensive

land settlement programmes began under the colonization schemes with the view to introducing a broad based approach to socio-economic development. As a follow up, governments during the post-independence era had outlined development policies having the interests of the rural sector in mind. Recommendations made to the government by international agencies like the World Bank had emphasised this. Moreover, the government's ten year plan of 1957 and the subsequent five year plan of 1972 had embodied measures to rehabilitate the rural economy and make it more attractive by a programme of modernizing agriculture and starting agro-based industries in the rural areas where there was much potential for it. These strategies helped reduce the inter-sectoral imbalance that prevailed in the country. By and large, these policies were pro-rural in nature as they basically aimed at improving the lot of the rural dweller by providing the infrastructure for settlement and by promoting agricultural activities. Here again, the services encompassed health, education and related welfare measures to those living in the areas designated as rural.

6.9 A Historical Background to Development

Looking at the historical perspective of development, during the Anuradhapura and Polonnaruwa periods of the country's history[7] the dry zone areas[8] were densely populated. Agriculture, supported by a well laid out system of irrigation, formed

[7] Anuradhapura period - 500 B.C. to 1000 AD; Polonnaruwa period - 1000 AD to 1300 AD. They now form only two administrative districts in the dry zone with each having rural populations well over 90 per cent but were seats of power and formed the capitals in the historic past.

[8] In Sri Lanka there are three broad agro-climatic zones, determined by the rainfall they receive. One, the dry zone which covers approximately 64 per cent of the total land area and is located in the northern and eastern sections of the country. Secondly, the wet zone covers about 23 percent of the total land area and is located in the central, southern and western parts of the island. Finally, the arid zone situated outside the path of the south west and north east monsoons is in the northwest and in the southeast parts of the island and covers about 13 percent of the land area of the country.

the backbone of the economy during these periods of history. Subsequent invasions in the fourteenth century from South India caused a drift of the population to the south west, resulting in the decay and disuse of the irrigation systems laid out by the ancients. Later, malaria spread to the dry zone which forced the population to desert it and move into the wet zone, which led to population pressure therein.

From the early 16th century, there were European occupations in the different parts of the country which lasted for over four and a half centuries. The Portuguese, Dutch and the British ruled sections of the country for about a century and a half each. The British who subjugated the land fully, introduced the plantations in the central highlands which warranted the provision of a good transport and communication network. The introduction of these plantations brought forth an extensive pattern of landuse, but affected the Kandyan peasantry. The town of Kandy was the hill capital prior to being subjugated by the British, and by "Kandyan peasantry" is meant the peasantry of the hills where the plantations were introduced and who held smallholdings in the country. With the passage of time there began a phase when land was fully utilised for plantations, leaving only very limited room for further expansion. This resulted in a shift in the line of thinking, and attention came to be focussed on the dry zone which was once a productive agricultural region where paddy was grown supported by a well laid out tank irrigation system so as to increase food production. By and large, it was the state of saturation reached in the plantation sector that contributed to attempts being made to re-establish the glory of the past and consequently, the dry zone districts with their predominantly rural populations came to be a region drawing attention for development.

Development strategies had first to concentrate on restoring the ancient irriga-

tion works which were all in a state of neglect and disuse. Accordingly, during the last four to five decades, concerted efforts have been made to re-establish the glory of the past, through a planned programme of resurrecting the irrigation system that had stayed in a state of disrepair. These steps helped to re-establish agricultural activities in the dry zone, enabling thereby to settle the landless peasantry from other parts of the island, especially from the wet zone. Developing the dry zone was important due to the increase that was seen in the overall population from 3.5 million in 1901 to 5.3 million by 1931, and most of this increase was experienced in the wet zone due to the establishment of the plantation activities during the British rule. Basically, it was the pressure of population on the village lands in the plantation areas that made it necessary for the government to look to the dry zone to resettle the landless peasants. This meant a significant movement of the population from the wet zone to the dry zone of the country. Thus land development in the rural dry zone was an outstanding aspect of government policy which was bent on improving the life styles of those living therein. With the commencement of a programme of restoration, there was a trend towards a shift of the population and by 1930 there was a gradual movement of people into it. However, at the initial stages malaria was a deterrent element to settlement, but with its eradication in the forties, there was an increase in the proportion of people living in the dry zone districts. Thus the restoration of the ancient irrigation works and the efforts at developing the dry zone through a planned programme of colonization schemes had a very significant impact on the population distribution patterns in the country. In 1946, the proportion of the population living in the dry zone districts was 24 per cent and by 1981 it had risen to 32 per cent.

In this regard, it is relevant to indicate that after the mid forties, with the

exception of only the Jaffna district located in the dry zone, all other districts which recorded a rate of increase lower than the national rate were situated in the wet zone. Although the Jaffna district is in the dry zone, it has a highly developed pattern of intensive agriculture and due to urban development and the high density of population it ranks next only to Colombo, the capital of the country, as an urban agglomeration. Therefore, developmental efforts made to uplift the sparsely peopled dry zone had little or no effect on a district which had passed its threshold in this direction. All other districts which recorded higher growth rates than the national rate were in the dry zone. This has been mainly due to internal migration from the wet zone resulting in the dry zone having a higher percentage of persons born outside the district. They are an outcome of the land development policy of the government from the thirties, aimed at repopulating the dry zone of the country which was once the seat of power and the centre of civilization. These efforts are amply reflected in the migration trends from 1953 to 1981, which shows that the dry zone districts of Amparai, Anuradhapura, Batticaloa, Hambantota, Jaffna, Mannar, Moneragala, Mullaitivu, Polonnaruwa, Puttalam, Trincomalee, Vavuniya and the eastern sections of the Badulla district have consistently been in-migrant districts in the country. Apart from the dry zone districts, in-migration was seen to be dominant only into the district of Colombo, an overall pattern of in-migration that indicates the significance of the movement of population to the predominantly rural districts. These regional trends in the movements of population have relevance to the emerging trends seen later, whereby the population moves came to be basically identified as those from urban to rural. In this regard, it is necessary to emphasize the fact that 85 per cent of those living in the dry zone districts are rural and they form well above 35 per cent of the total rural population of the country.

There was a fresh approach to development commencing in the early seventies when the strategy was to map out development programmes at the district level. It was executed through an administrative machinery termed the District Development Councils. This line of action was justified by experts and planners solely because the bulk of the population, more than 78 per cent, lived in entities designated as villages and were also poor. This attempt at developing the rural economy was also justified on the grounds that the main economic and social problems of the country were centred around the rural areas. The main objective of the scheme was to get the people to be associated with the drawing up and implementation of development projects. The scheme thus gave a greater weight to the rural sector in the overall development programme by establishing small scale production units utilizing local labour. Regional plans were drawn up and resources at the regional level were to be identified and each district was to go into production drawing on its own agricultural and industrial raw material. A major objective of these projects however was to reduce both unemployment and underemployment and to develop local arts and crafts. According to data available, of the funds that were utilized, more than half went to industry, as the main objective was to industrialize the rural areas. Only a third of the funds went into agriculture, mainly because agriculture needed less capital and its main factor of production, land, was made available by the state, through a process of allocating crown land for the purpose.

The District Development Council projects were located both in the urban centres and in the rural areas and a very striking aspect of their spread is that about 80 per cent of them were sited outside the populated Western Province. The Western Province has well over one third the population of the country and within which the bulk of the state and private owned industries were located.

Therefore, the District Development Councils were sited in the less populated areas so as to provide an even network of economic activities and bring about a spread of the population. This pattern of distribution was also aimed at providing employment opportunities to young men and women in the villages who found it hard to find employment elsewhere. The programme, which was geared to promote development at the district level, created clusters of activity and was a contributory factor in enabling small sized towns to grow in numbers.

Amongst the steps taken by the government to develop the country, those in the direction of agriculture are considerable. In this regard, special mention needs to be made of the development programme based on the longest river of the country, the Mahaweli. It was geared to use the waters of this river to lead the people to the land so as to help re-establish the glory of the ancient civilization which once thrived there. Apparently the Mahaweli is not merely a river, but forms a river system as it taps the major share of the drainage of the central hills from where most rivers originate. Hence, the heavy downstream flow of this river remained under-utilized with only 10 per cent of the water being used for irrigation and 70 per cent of the land in the basin occupied by jungle. The Mahaweli diversion programme was designed to carry the waters from an area where it was causing problems by its frequent flooding during the monsoon rains, to an area where it was to solve many a besetting problem associated with agricultural production. The project has harnessed the largest river in the island for the biggest multi-purpose development programme ever to be undertaken in the country, bringing approximately 900,000 acres of land under irrigation in the dry zone. It is relevant to state here that the country imports more than one third its requirements of rice which forms the staple food of the people. Imports of rice, flour, and wheat cost

nearly 5000 million rupees which drains about 200 million pounds worth of foreign exchange. Moreover, by a process of damming and taming the river, the hydro-electric potential of it is being exploited by generating and adding 470 megawatts of installed hydro power capacity to the island's electricity grid. This has resulted in a saving of valuable foreign exchange to the equivalent of nearly 3,250 million rupees (43 million pounds), being the cost of imported fuel for the generation of thermal back-up energy until the middle of 1987. All this was made possible because the new government which was voted to power in 1977 decided to abandon the initial plan to phase it in through a period of 30 years and wanted to accelerate the pace of the development process so as to see it through to fruition in a seven year period.

According to the ministry sources handling the programme, the landless farmer who was settled in the Mahaweli project area now derives an annual gross income of about 20,000 rupees per annum from agriculture and allied pursuits. New facets of development have been introduced to increase the per capita income of the farmer by providing off-farm employment opportunities through new management techniques with the view to introducing technological changes into agriculture. Many untapped resources found in the project area are being made available to entrepreneurs so as to attract private sector investment which is to generate employment opportunities to the farming community. These strategies would encourage capital investments to establish small industrial units in the hitherto rural setting.

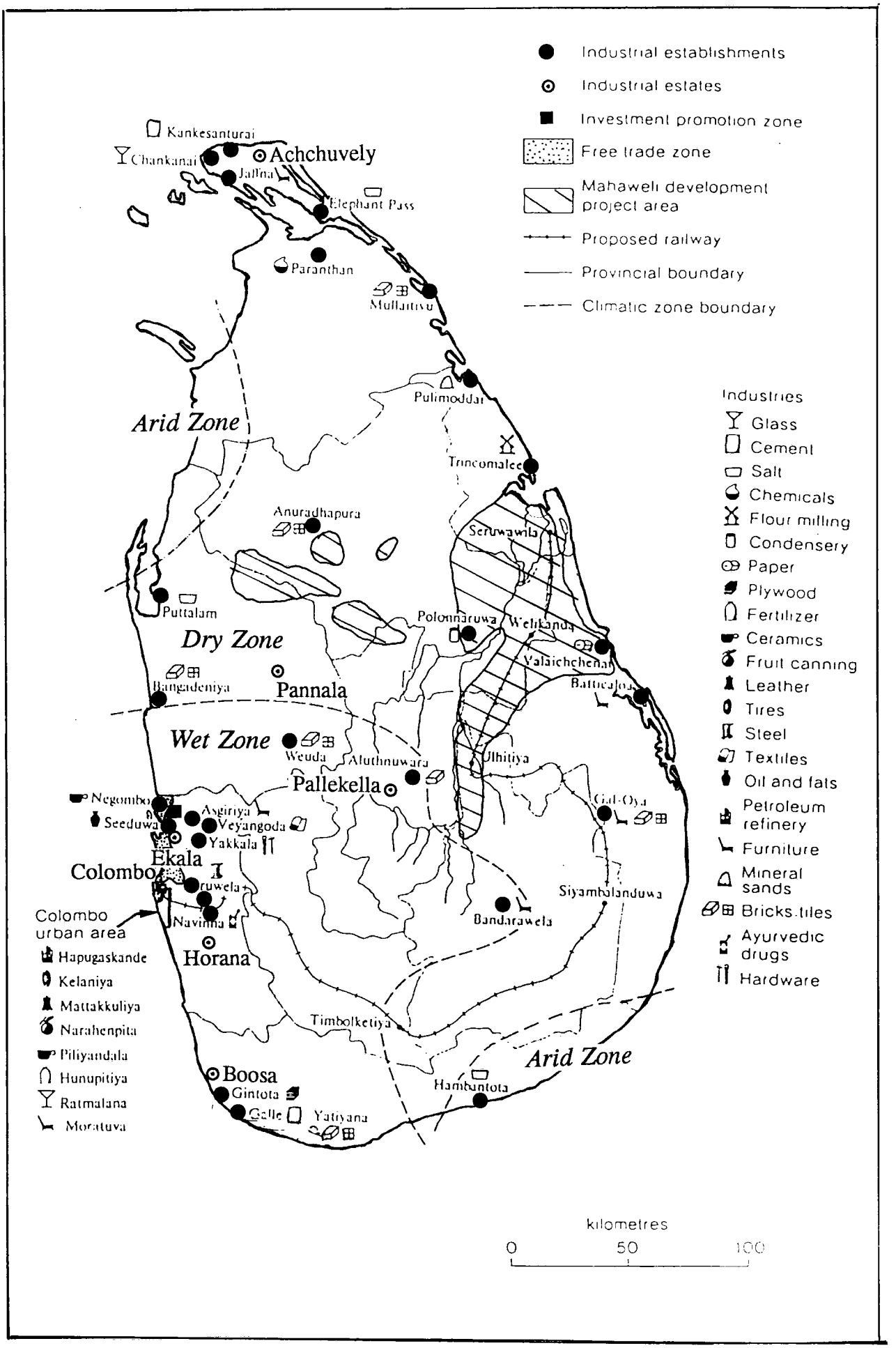
Above all, the increase of agricultural production in these areas has widened the horizon of opportunities for the exploitation of backward and forward linkages for increasing the scope of employment for the settlers. The provision of an

adequate network of roads which traverse the project area, helps the settlers in the transport of agricultural inputs, consumer goods and agricultural produce to markets. Townships equipped with the necessary civic and infrastructural facilities such as education, health, agricultural processing, storage, post and telecommunications, banking, electricity, water supply, and religious centres of worship have been installed. The provision of these services would help in a more sedentary and stable pattern of life for the settlers.

The outcome of this line of development, resulted in a transfer of population from the hitherto thickly populated south west quadrant. The landless and the unemployed had come into this region thereby resolving two problems, one the congestion caused by concentration of population in the south west and the other providing land and employment to the unemployed. Although the thrust of the whole exercise was the production of food which would cut down on imports and thereby release foreign assets towards investments and bring redress to the ailing economy, it would also spread the population on the hitherto neglected districts of the country, which had held high agricultural potential from the ancient times.

Although Sri Lanka is predominantly an agricultural country, industrial development has come to be a major strategy in the development of its economy. Both the private and the public sectors are involved in the industrial programmes. The public sector ventures have a wider spread in the country. Cement, steel, ceramics, glass, plywood, tyres and tubes, petroleum refinery, flour milling, fertilizer, paper, textiles, salt, fruit canning, leather, brick and tiles and furniture making are some of the major public sector ventures. The private sector industries have a more limited areal spread, being sited essentially in and around the primate city of Colombo. In this regard, the setting up of the Industrial Development Board

Figure 6.2 Industrial Locations and Development Areas in Sri Lanka



and the industrial estates programme in Sri Lanka during the sixties has been an important step towards decentralizing industries. The main objective of the industrial estates programme was to make an effort to help avoid the ills of undesirable concentration of industries in Colombo, the capital city. It was meant to emphasize the need and the advantages of regional dispersal of industries and this strategy has now gained policy acceptance.

In accordance with this, the government authorised the setting up of the regional administrative machinery to implement effectively the programme of regional industrialization. The approach was to establish small scale industries based on local raw materials. It was towards achieving this goal that the industrial estates programme commenced. These estates are located at Ekala, about 15 miles north of Colombo, in Pallekella in the outskirts of Kandy in the central highlands of the country, and in Achchuvely in the north within the Jaffna peninsula. There are in addition industrial estates at Boosa in the south, in Horana about 25 miles south west of Colombo and in Pannala about 30 miles north west of Colombo within the coconut producing region in the south western part of the country (Fig.6.2). The industrial estates programme generated direct employment for about 7000 and had in addition opened up prospects for further indirect employment in ancillary activities. Basically, the industrial estates programme had helped in the first instance to decentralize industries and secondly to promote small scale industries utilizing local raw materials available in and around the region where the estates were sited.

During the late seventies, a fresh strategy mapped out for industrialization, was innovative in approach as the government's plan was to adopt policies designed to reduce state control, encourage private investment and enterprise and to allow market forces to bear on the economy. This has been mooted through a process

of establishing an industrial processing zone termed the Free Trade Zone, located about 20 miles north of Colombo with an extent of about 200 square miles and in close proximity to the country's international airport. Foreign investors have come into this zone of activity, where there is an Investment Promotion Zone (IPZ) and an Export Promotion Zone. There are two other Investment Promotion Zones around Colombo within a distance of 15 miles. Foreign investments in the IPZ are specially designed for manufacturing establishments producing or assembling exclusively for export. These zones have provided direct employment to about 200,000. The non-agricultural nature of the jobs had lured the people into it.

These development programmes providing coverage to both the agricultural and industrial sectors and which were all well spread out in the country tended to bring about a degree of equalization in opportunities and the resultant life style to the population. With rural electrification and industrialization, those living in the rural areas had much in common with those living in areas demarcated as urban. The upshot of these developments brought forth a general universalization in the modern outlook amongst those living in the country. It is a line of thinking often identified with the urban dweller and the modern sector, but given the developmental framework outlined above, it had disseminated into the society, independent of residential status. Hence, it is vital not to ignore this aspect in understanding the fertility behaviour of the population.

These efforts by the planners, combined with the welfare measures already in force in respect of health, education and subsidies contributed in adding strength and vigour to the rural economy which resulted in narrowing the differentials and in averting an urban-rural polarization. The upshot of these developmental efforts and welfare measures dampened the push effect in rural Sri Lanka, a behavioural

trait popularly identified in the region.

6.10 Rural Bound Migration: A Suburbanization Process

Evidence from internal migration studies, especially during the post independence period, reveal that the direction and magnitude of the population movement had been essentially to rural destinations located in the dry zone. The eradication of malaria after the second world war coupled with the commencement of the colonization programmes contributed to this trend in migration. Since 1946, this pattern persisted and the significant aspect of migration during this period was that the magnitude of migrant flows in terms of absolute numbers towards Colombo was on a par with rural dry zone districts like Anuradhapura. However, the migration rates of the latter were nine times higher than the capital. Studies made on intercensal migration from 1946 onwards revealed a consistent trend in population moves into the dry zone districts. During the 1953-63 intercensal period, the share of increase in population due to in-migration was 20 per cent in the Colombo district and 26.6 per cent in the dry zone. The 1963-71 trend reveals that, although Colombo received the largest number of migrants due to the obvious attraction a nation's capital would offer being the financial and commercial hub, the migration rates of districts like Polonnaruwa with 92.2 per cent of the population rural was seven times higher than that of Colombo, with the former recording a migration rate of 11.31 whilst the latter had a migration rate of only 1.61 per cent. Similarly, other dry zone districts such as Moneragala with a rural population of 97.8 per cent recorded an in-migration rate of 10.8 per cent, and Anuradhapura with 93 per cent rural had an in-migration rate of 7.51 per cent, and Vavuniya another dry zone district in the north central parts of the island with a rural population of 80.6 per cent showed an in-migration rate of 6.92 per

cent.

Evidence provided by place of birth data for 1966-71 reiterated these trends, as in the Polonnaruwa district over 85 per cent of those in all age groups above 25 years of age were born outside the district, reflecting the migration trends into the district over the years. Similar trends were revealed in respect of the other predominantly rural dry zone districts such as Anuradhapura, Moneragala, and Vavuniya.

The 1971-81 intercensal migration picture reveals that migrants have not only come into Colombo in large numbers but have also left Colombo in equally large numbers to destinations including to those as Anuradhapura, a rural dry zone district. Amongst the districts which had net gains of over 100,000 persons, were Anuradhapura and Polonnaruwa. The higher rates of in-migration were found to be to districts with small populations such as Polonnaruwa, Mullaitivu, Vavuniya, Moneragala, and Anuradhapura which are all situated in the dry zone. Therefore, the net transfer of migrants was from the wet zone to the dry zone districts. These movements into the dry zone districts have been a post independence feature and a noteworthy phenomenon being that Anuradhapura, Polonnaruwa and Moneragala, all with rural populations above 90 per cent have been the major destination for lifetime migrants; for example in the Polonnaruwa district, for every resident born in the district there was one lifetime migrant. Thus evidence drawn from census data reveal that internal migration in Sri Lanka is still primarily oriented towards rural destinations with points of origin being regions having high, medium, and low density of population.

Gunatilleke (1973: 53) states " the rural sector in the dry zone thus became a

counter to the established urban sector and drew the impoverished and the landless rural population away from the pull of the city where the sluggish expansion of economic activity offered few competing opportunities."

These rural bound migration trends could be best understood in the light of the developmental strategies mapped out by the government at the district level with a view to providing a better life to the people and to minimize the inequalities prevalent in society. However, as indicated earlier, they are to be regarded as rural on such administrative status being assigned to them. Apart from the economic strength and the resultant attraction these rural areas have provided for migrants, the rural scene in Sri Lanka is very different to the connotation that often goes along with it and this is reflected in the non-rural outlook of the people.

6.11 Developmental Efforts and Patterns of Urbanization

The migratory trends discussed earlier, ensued a shift in the distribution of the total urban population towards the dry zone, and it would be relevant at this juncture to look at the transformation in this direction. During the post-independence (1946-81) period, the Western, Central and the Southern provinces which are all in the densely populated south western quadrant of the island and located within the wet zone have shown declines in the urban population when viewed against the population urban in the country at large. However, the North Western province, which has two thirds of its area located within the dry zone, has maintained a constant proportion during the same period. The remaining five provinces, Northern, Eastern, North Central, Uva and Sabaragamuwa have all increased their share of the national urban population. A noteworthy phenomenon in respect of these trends is that apart from Sabaragamuwa province they all form part of the dry

zone. Looking at events at the district level, it was found that during the 1953-63 intercensal period, the dry zone districts of Anuradhapura and Polonnaruwa where most of the colonization schemes lie expressed significant urban growth of 110.9 per cent. Other state policies outlined to develop the suburbs of the capital Colombo, resulted in urbanization encroaching into neighbouring districts such as Kalutara situated south of Colombo where a phenomenal increase of 117.8 per cent was observed during the 1953-63 intercensal period and a 26.1 per cent increase between 1963 and 1971. Similarly the Puttalam district located north of Colombo, recorded increases of 76.8 per cent and 37.1 per cent in urbanization during the 1953-63 and 1963-71 periods respectively, indicating the impact of these policy measures on the process of urbanization. Therefore, both the sparsely peopled dry zone districts and the fringe areas of the capital city underwent significant transformation in respect of urban growth (Table 6.7).

These trends were seen reflected in the growth patterns of urban places in respect of their size class. In this regard Puvanarajan (1976) had shown that in the process of urbanization, the medium sized towns were growing in prominence and dominating the process of urbanization in Sri Lanka. The largest number of towns in 1953 (14) was in the size class 10,000-19,999, in 1963 the largest number (23) was in the size class 5000-9999, and in 1971 the largest was 34 and in the size class 10,000-19,999 followed by 32 and 30 in the size classes 2000-4999 and 5000-9999 respectively. Even in 1981 the largest number of towns (34) was located amongst the 10,000-19,999 size class. However the growth in the number of urban places in the size class 20,000-49,999 had risen from 25 in 1971 to 31 in 1981. This is to be attributed to the urban places in the lower size classes graduating to higher size class positions primarily due to the process of natural increase. The overall

Table 6.7 : Urban Growth in Sri Lanka by Province and District, 1946-1981

Province/District	Percentage Change			
	1946-53	1953-63	1963-71	1971-81
Western Province	22.0	49.9	42.2	11.6
Colombo	22.6	44.3	44.2	11.6
Kalutara	14.8	117.8	26.1	11.0
Central Province	24.6	37.9	22.7	5.0
Kandy	19.1	31.9	23.5	0.1
Matale	22.4	70.4	27.8	0.9
Nuwara Eliya	64.8	37.3	12.7	37.1
Southern Province	12.8	80.2	19.6	10.5
Galle	12.6	95.7	19.2	8.5
Matara	16.2	49.3	9.4	8.2
Hambantota	2.7	100.0	49.6	24.4
Northern Province	23.4	121.5	55.3	17.0
Jaffna	23.4	95.4	55.1	15.7
Mannar	-	-	23.4	30.4
Vavuniya	-	-	84.2	24.6
Eastern Province	-3.8	157.3	54.1	24.6
Batticoloa-Amparai	3.4	346.6	30.3	31.2
Trincomalee	-18.9	32.1	107.5	15.3
North-Western Province	29.9	62.2	38.5	11.6
Kurunegala	31.9	46.8	40.3	3.9
Puttalam	27.9	76.8	37.1	17.8
North-Central Province	49.3	110.9	42.1	13.3
Anuradhapura-Polonnaruwa	49.3	110.9	42.1	13.3
Uva Province	35.2	106.7	32.5	-4.9
Badulla-Moneragala	35.2	106.7	32.5	-4.9
Sabaragamuwa Province	26.2	78.1	119.2	17.4
Ratnapura	30.8	37.8	90.0	18.6
Kegalle	12.4	217.8	163.1	16.1
Sri Lanka	21.1	62.7	41.2	12.2

Source: UN, ESCAP, Population of Sri Lanka, 1976, p.69; Census of Population and Housing, 1981, General Report, Vol. 3, p. 75

picture is however that of one which indicates that the medium sized towns have been growing in number.

This unusual pattern of growth may well be attributed to the presence of an administrative machinery with district headquarters spread out in the 24 districts of the country together with the recent supply of services such as health, education and the sudden spurt in commercial enterprises as an aftermath of the liberal policies adopted by the government in that direction. All this, coupled with the decentralization of the development programmes have contributed towards accelerating the growth of the said small and medium sized urban centres.

Therefore, on the one hand there is a trend towards a numerical increase of the small sized towns and on the other an increase in the size and number of the medium sized towns. Both trends suggest that the growth of smaller urban units be attributed to a programe of decentralized development in the recent past. The multi-purpose river valley and basin development programme of the Mahaweli, the integrated rural development programmes along with the industrial estates and the other major industrial complexes being located in the peripheries, and away from the core, have also contributed towards the above growth patterns in the towns.

The ESCAP (1980) study on Migration and Urbanization reveals that the predominant occupational structure of the inmigrants coming into all urban categories as well as into the rural areas belonged to the services sector. This component was found to be in higher proportions than the never moved in the said categories of residence, whereas in the other occupational sectors like agriculture and manufacturing, the proportions never moved were higher than the inmigrants who came into these occupational sectors. In the light of the changes outlined in retrospect,

this pattern is to be expected, as those moving in have all come in to play the service functions demanded by the growing urban clusters. A similar pattern was seen in the rural areas too. This line of argument gets reinforced on migration being viewed in respect of duration of residence as those who had come into the service sector showed an increase with a decrease in the duration of stay. It provides convincing evidence to establish it as a recent phenomenon and that it needs to be viewed with a background of the development efforts outlined earlier. By and large, they are to be regarded as those who moved to man the urban services demanded at the points of destination. Above all, census returns show more people engaged in the service sector in the rural areas than in the urban areas, a pattern that was found to persist both in 1971 and 1981. The extensive rural development and industrialization programmes that had been in force during the last decade and a half and the resultant generation of such activities in the rural sector may have demanded certain occupational classes of the population to man the services segment of activity and thereby resulted in the present dominant inmigrating tendency of the services personnel into the rural areas. Thus the overall picture in the occupational structure reveals a dominant trend in those coming into the services sector as part of the process of urbanization.

This trend is reflected when looking at the percentage increase over the years; for example, the rural areas showed greater percentage increase in both the manufacturing and the service sectors with the manufacturing sector showing a 20.5 per cent increase in the rural areas during 1971-81 and the urban areas lagging behind with a 11.5 per cent increase, while in the service sector the rural areas recorded a 31.5 per cent increase in numbers whilst the urban areas showed a lesser 24.1 per cent increase only. Therefore far from there being an urban / rural contrast

in respect of these two vital occupational categories popularly associated with the modern sector, the rural areas seem to have more people engaged in it.

6.12 Welfare Measures and the Urban-Rural Continuum

Therefore, there has been a genuine concern by the government towards raising standards of the rural areas. Side by side there were programmes outlined to provide a better deal for the farmer through the provision of a guaranteed price for their produce, fertilizer at subsidised prices, agricultural credit and the provision of high yielding varieties of crops to ensure greater productivity through a well organised agricultural extension service. In addition to the above there were very effective legislative measures taken so as to bring stability to the farming community. A noteworthy step taken in this direction was banning the import of certain vital items of non- traditional agricultural products which were consumed by one and all in Sri Lanka, namely onions, chillies, pulses and potatoes. It resulted in a considerable price rise of these items which the farmer readily took to growing. This single measure brought much prosperity to the farmer and created a new but "get quick rich " attitude amongst them. Many youths took to growing them as the returns were not only promising but also quick. Comparatively, those engaged in white collar work in the service sector in the urban areas need to be regarded as engaged in far less remunerative employment; especially with the very high cost of living in the urban areas, their effective income gets decimated unlike with those in farming in non-traditional crops. Drawing on the writer's personal knowledge of the then prevailing trends, those who manned the learned professions in the city of Colombo, doctors, engineers and university professors spent their weekends and even took time off work to supervise and manage their plots under onions and chillies in the dry zone which gave them lump sum credits after each harvest.

These developments contributed to a significant transfer of resources from other sectors of the economy into the so called rural sector.

The outcome of these developments meant that the population was lured by the retentive ability of the rural setting as it outweighed any pull effect that the urban sector could offer. Superimposed on the above approach to rehabilitating agriculture were other welfare measures which the government steadfastly kept implementing in the areas of education, health, food and transport. Although education has been dealt with in an earlier chapter, what becomes relevant in the urban-rural context is that with the introduction of free education and the concomitant switch over to the mother tongue as the medium of instruction, English lost ground as a requirement for gaining access to the learned professions. This resulted in those living in the urban areas losing the monopolistic hold on entry to the coveted professions. Prior to the forties, English education was imparted only in the private fee-levying schools located in the main urban centres in the country; thus access to the professional positions, a career and the associated social upward mobility was restricted to the urban dweller. A switch over of the learning process to Tamil and Sinhalese, the national languages of the country, enabled the schools which were in the rural areas to compete in presenting students to enter the universities to follow programmes of professional learning. Above all, it meant that in respect of educational opportunities, it was possible to restrain the rural population from migrating to urban centres as the pattern of education leading one into upward social mobility in society came to be within their reach in the areas defined as rural. The effect of these policy measures is seen reflected in the virtual surge in university admissions, commencing in the early sixties with a phenomenal rise in the entry of female students.

Similar welfare measures in force in respect of health have been documented earlier in this chapter when mortality trends in the urban and rural sectors were discussed. By and large, due to the beneficial effects of these welfare policies outlined and implemented by successive governments, the rural-urban dichotomy weakened over the years losing its significance in providing an identity with specific traits which could be applied to distinguish and differentiate those living in the so called urban and rural settings in the country. This has been well amplified by ESCAP (1980:87) as the study refers to the urban-rural scene as " the social distance between rural and urban areas has been reduced a great deal by the penetration into rural areas of educational and health facilities normally found in urban areas. This distance has been further reduced by the development of transport."

6.13 Transportation and the Rural-Urban Links

There has been a considerable increase in the length of motorable roads constructed in Sri Lanka during the past four decades. There were nearly 11,200 kilometres of road length in the late forties. According to figures provided by the Road Development Authority in Sri Lanka, the road length kept rising and according to the 1991 figures the road length has increased to well above 25,000 kilometres. This however excludes the unspecified category of roads . In addition to increasing the road length in the country, there has been a significant change in the policy adopted in road construction whereby more and more of the rural areas came to be served by its network. Moreover the earlier practice was basically to link the capital which was the main port of the country to the major towns, resulting in the construction of trunk roads and some feeder roads . With an increase in the road kilometreage, not only did rural areas get linked to the main towns

and thereby to the capital, but linkages came to be established between villages bringing forth village clusters which came to have links with the centres of activity. It resulted in a greater degree of regional cohesion between areas.

Linkages came to be established by the provision of road transportation to the remotest parts of the country. Above all, a great milestone came to be laid in this direction when bus services were nationalized in the late fifties. By this enactment, a transformation was enforced from the service being run with a profit motive to that of providing a basic service to the people. When the service was run by the bus magnates, they had only the profit motive in mind and hence served areas which were highly promising and ignored areas and routes which they regarded as unprofitable. The island wide nationalization of this service, brought it under a single authority, the Sri Lanka Central Transport Board, which being a state corporation was wedded to a policy of providing a service to the population and extended the service to reach the remotest parts of the country. Areas located in the central hill country and those linked by narrow roads were served by smaller buses which could ply on these routes without difficulty. By and large the motto of the Transport Board was one that laid emphasis on serving the masses and to achieve this goal fares were levied at subsidised rates. The upshot of these developments brought the rural areas out of their earlier isolation from the urban core. By a gradual process they helped disseminate the mainstream of knowledge and outlook which came to be all pervasive in the land.

Moreover with Sri Lanka adopting the parliamentary democratic system in formulating the governmental machinery, the will of the people exercised through the ballot becomes a powerful weapon in determining who should represent them in the country's legislature. This results in politicians being highly sensitive to

the needs of the people especially of those living in the rural areas. Above all, as the majority of the population in Sri Lanka live in areas designated as non-urban, the power structure of the country lies within it and gets determined by those living therein. The resultant effect is that the rural areas get well served with the many and varied arms of the administrative machinery radiating out to reach them with a service motive as illustrated in the ESCAP study (1980: 89): " Thus a network of service centres has developed throughout the country, the network being denser in the more densely populated areas. The fact that the government provides many services in Sri Lanka has enabled services to be distributed more equitably throughout the country. Being motivated by social benefit rather than private profit, these services are provided even in areas where on the basis of economic viability they would not be available." With the view to achieving this, the administrative machinery has been highly decentralised. These services, on being stretched far and wide into the rural areas of Sri Lanka, did not however entail a physical contraction of the rural area at the cost of an expanding urban complex, but led to a contraction of the rural outlook which has been taken over by one often identified with modernization and urbanization. The region, despite continuing to hold a rural status on record, had seen changes penetrating into society. Modern urbanism tends to be much less urban confined, the rural dweller in Sri Lanka not escaping from its influence by being residentially rural. This results in the changing structure and function of the rural areas which favours a socio-cultural diffusion between the rural and urban segments of the society. Hence the newly emerging outlook is a product of an integration process which makes urbanism not a matter of geographical location, limited if not restricted to urban places. It is one that is characterised by a brand of thinking, a mentality from which springs a behavioural pattern independent of one's residential status.

6.14 IRD & the Narrowing Urban-Rural Gap

The Integrated Rural Development (IRD) programme in Sri Lanka is a relatively recent phenomenon beginning in 1979. It was valued as a right step towards development with 78 per cent of the country's population considered rural. Therefore the sheer weight of numbers makes it imperative for increased attention to be paid to developing the rural areas, and it was an outcome of the realization that developmental action should be focussed on the needs of the majority and of programmes mapped out to achieve this orientation. Since there are many areas of activity that needed attention, attempts at improving isolated segments of sectors and services were deemed ineffective towards achieving the goals. For the reason that it had to cover a broad spectrum of activities, a well coordinated and integrated approach was believed to provide the best remedy. The concept of Integrated Rural Development is itself a pragmatic one and to answer the many and varied facets of rural upliftment, it was multi-disciplinary in approach and multi-sectoral in operation. The concept does not merely aim to redress poverty and to fulfil the basic needs of life but is bent on narrowing the rural-urban gap by a process of removing the prevalent disparities in society. The operational aspects involve drawing the rural labour force into the mainstream of economic activity. In the process it brought the town into the countryside and laid checks on the drift of the rural population to the towns and cities. This has been achieved through a process of providing a better and diversified rural sector which, as referred to earlier, had provided a pattern of decentralized urbanization. The programme aims at supplementing farming activities with trading and industrial pursuits. It enhanced the participation of women and youth in the development process. The outcome is the improvement in the quality of life which would remove if not narrow down

any prevalent inequalities within the rural and urban communities.

The Integrated Rural Development Programme in Sri Lanka has the financial backing of many international agencies and governments. Amongst the donor agencies are the World Bank, the Swedish International Development Agencey (SIDA), the Norwegian Aid for Development (NORAID), the International Fund for Agricultural Development (IFAD), and the governments of Netherlands and Canada. Areas brought within the integrated net include the rehabilitation of agriculture, development of irrigation, re-afforestation, rural road network, livestock, sanitation, housing in villages and estates, water supply, rural electrification and the improvement in health and nutritional levels.

In 1988, out of a total of 24 districts in the country, 14 came under the IRD programmes. Although the plan was to provide island wide coverage, the unsettled political conditions in the Northern and Eastern Provinces since 1983 led to the suspension of the implementation of the programme in seven districts situated in these two provinces.

These policies of successive governments with pro-rural intentions in scope and content helped contain the population in the rural settings. Although the country may not have gone through the developmental cycle popularly identified with the developed world, the policies outlined in Sri Lanka contributed to the path of development as it changed the outlook of the people.

6.15 Recent Policy for Mass Amelioration of Rural Areas

In respect of the contended urban outlook in the rural areas in Sri Lanka,[9] it is pertinent to look at the steps taken by the government during the past decade and a half to alleviate the conditions of those living in the areas demarcated as rural in the country. As indicated earlier in the study, development efforts are not new to the country. However, those undertaken recently were different in nature, for they had a strong political and administrative will with added support and stimulus being given at the Prime Ministerial and at the Presidential levels of administration. The overall mission not only had the strength of the highest office in the country but the personalities in such high office, steering the programme also mattered, as it made all the difference in the effort making process.

The traditional approach to development has been through mapping out strategies of development at the macro level, where large investments on elaborate projects had to enter into competition for developmental efforts. This approach meant a long time lag before any benefits accruing through it reached the masses. It becomes a top-bottom approach to resolving problems, where arguably those in the upper and middle classes benefit before it could trickle down to those further down in the ladder. The lag in time tends to create more problems to the needy or to aggravate the situation before reaching the point of resolving them. This is especially true in a developing context. In this regard, one is tempted to draw some parallels from the experience seen in the application of Frank Notestein's

[9] The sections from here to the end of this chapter have been included to help the reader understand the nature and results of government intervention in development. The writer was exposed to the recent efforts of the government in areas of housing, industry and related welfare bent on raising the standard of life of the masses, during a visit to Sri Lanka in 1992. They are deemed relevant in the context of narrowing the gap in respect of the provision of amenities of life. Basically, they are efforts with a bottom-up approach, intended on ushering a better life to the needy, a doorway to modernization with its resultant outlook that would tend to surface amongst those benefitting.

(1945) demographic transition theory in the developing countries. As conceptually outlined in the theory, when the beneficial effects of economic development and that of modernization in respect of fertility behaviour came to be felt in the Third World as extraneous factors, the immediate impact it had was on curbing death within a framework of ailing economies, resulting in a surge in population growth. The outcome of it all was that, despite having helped to increase survivorship rates in the developing countries, it brought along with it a range of problems associated with the inability of governments to accommodate a growing population within the framework of the prevalent stagnant economy.

The recent approach of politicians and planners in Sri Lanka to better the lot of the masses has been at variance with the earlier ones. It was a concerted effort at a direct onslaught on the problem. It struck at the grass roots and was one that came to recognize the family unit as the principal focus of development. Although the provision of houses and the alleviation of poverty were given utmost priority, other developmental efforts to benefit the community at large were also undertaken. The provision of schools, hospitals, electricity, safe drinking water, roads and other urban services like banking and decentralized adminstrative units were included in the package of development. It was generally meant to re-awaken any segment of society from its slumber and to bring them into line with the rest and onto the mainstream of development. These efforts were targeted at revolutionizing and equalizing the social fabric of the Sri Lankan society by improving the overall quality of life.

6.16 Shelter for the Nation

Providing shelter for the nation was a vital strategy adopted by the late R. Pre-

madasa while serving as President from 1989-1993 and as Prime Minister and the minister in charge of local government and housing during the 1977-1988 period. With a view to drawing world wide attention to this problem, at the 35th sessions of the United Nations General Assembly, held in September 1980, he called on the world body for the declaration of an international year committed to " homes for the homeless." He regarded it as " an investment in mankind " seeing the benefits of providing a home as not only material but also moral and spiritual. In February the following year, his proposal was accepted at the meeting of the Non-Aligned Foreign Ministers in Delhi. These later moves aside, on assuming office in 1977 the government started on a vigorous programme of building 100,000 houses in both the urban and rural areas of the country, and it was not a programme that was to be concentrated in the towns and in the capital city of Colombo. Side by side with this effort was the village re-awakening (*Gam Udawa*) movement, which meant the building of model villages. This programme was meant to provide decent shelter, safe drinking water, electricity, re-construction of irrigation schemes, improvement of transport and marketing facilities and the opening-up of new roadways. The 100,000 housing programme thereby came to be superimposed on the village re-awakening exercise. During the 1978-83 period, alongside having achieved the target to build a hundred thousand houses, 300 model villages were set up. Some such villages had 50 new houses each, whilst others had provision ranging from 100 to 200 houses. The biggest model village of all was situated only about 20 miles north of the capital, Colombo, in Seeduwa. It had a total of 2020 housing units and was a middle class housing programme with all modern facilities for living being provided.

A sum of US $ 3.64 billion was invested over a six year period (1978-83) on this

first stage of housing development. With the view to successfully executing this programme, the necessary administrative machinery was created. It comprised the Urban Development Authority (UDA) and the National Housing Development Authority (NHDA). The NHDA, in addition to monitoring the above programme, released state lands to entrepreneurs for housing development and granted home-builder loans to low income and low-middle income groups at concessionary interest rates.

Alongside the above plans, there were others which specifically concentrated on improving the quality of life in the rural areas. In pursuance to this, a programme to construct 50,000 rural cottages during the six year period was commenced. This was basically a self-help scheme, whereby the NHDA provided the building materials and the know-how, the villages were to provide the necessary labour on a voluntary basis. It meant the utilization of human labour, found in abundance in the rural areas for the benefit of a larger group.

Premadasa (1987) addressing the Fourth Session of the United Nations Commission on Human Settlements stated " our aim in the establishment of model villages under the village re-awakening movement, is to create economically self reliant, socially and culturally resilient, rural communities given to a simple way of life and living in harmony with nature, sharing the common weal. These are the values which sustained our ancient rural communities, and for our rural people, the village re-awakening movement has been a process of re-discovery of their lost values and identity."

These measures that were outlined to better the lot of the rural dweller in respect of dwellings need to be regarded as a meaningful extension of the existing

welfare measures already in force and hence came to be integrated with those of health, education, agriculture, small industries and employment. The model villages programme was basically a comprehensive approach to village re-awakening. They were meant to act as rural growth centres that would deliver to the rural masses a better life. After the target 100,000 houses was successfully achieved during the 1977-83 period, an ambitious one million housing programme was launched in January, 1984. This is to be regarded as a unique effort in a developing context as in Sri Lanka and it needs to be emphasized that, although the village re-awakening programme, begun in the year 1978 has many facets of development built into it, the housing component formed the most effective of all.

Accordingly, the census of population and housing 1981 revealed that Sri Lanka had 2.8 million housing units and that the rate of growth of housing outstripped that of the growth of population during the 1971-81 intercensal period. The above-said decade observed a population growth of 17 per cent and an increase in the housing stock by 27 per cent. Housing in the rural areas increased from 1.5 million units in 1971 to 2.08 units in 1981. With nearly 78 per cent of the population living in rural areas, greater emphasis was placed on rural housing and thus over 88 per cent of the increment to housing during the 1971-81 period was found to be in areas designated rural. The combined action, through the village re-awakening process and that of housing development had helped to stem the conventional flow of rural migrants to cities, a characteristic often seen in the region.

The one million housing scheme was able to get underway without difficulty as the decentralized administrative machinery to effect this task was already in place by 1983. The 24 administrative districts in the country had District Development Councils which were elected bodies. There were under them 4400 village parlia-

ments called *Gramodaya Mandalayas*, whose members were heads of recognised voluntary organizations in the village. This decentralized administrative unit was used in implementing the million house plan which came to be regarded as an extension of the village re-awakening exercise. According to this scheme, 250 houses were constructed in each of the 4400 village units. The construction of these houses commenced in 1984, and came to a successful completion in 1989. On achieving the target that was set, a further 20,000 villages benefited. With the ultimate target being the provision of shelter for the entire nation, the government embarked on a further one and half million housing programme which is currently underway. It forms the third major housing programme undertaken in the country's history.

6.17 People's Power (*Janasaviya*)

The People's Power (*Janasaviya*) programme is again one that was framed to provide opportunities to those who were in want and whose skills and talents remained either unutilized or under-utilized for lack of resources. By *Jana* is meant people and *Saviya* means power. It is contended that man has latent skills, but unless and until he is given the necessary training, resources and allied facilities he cannot gain power. Therefore *Janasaviya* becomes a programme which unearths the innate if not the hidden skills of the rural poor. On providing the necessary opportunities for development, they become active, and thereby result in gaining the power for a better life. It is essentially a programme that was formulated to enable the poor to be self-supporting. However, it is not a scheme that gives out "dole" for sustenance but one which attempts to bring the rural population into the main stream of economic life, as those who have hitherto been unable to contribute towards productive activity got the opportunity for it. It enabled them to change their outlook to life as they came out of the doldrums, to become economically

active and socially alert. As much as the outlook that I am attempting to elucidate cannot be globalized, this programme in itself is one that is tailored to meet the Sri Lankan needs.

The programme essentially outlines procedures to bring redress to the poor. The selection and identification of those eligible to receive support under the scheme are made by applying a certain set of criteria laid down by the commissioner. The scheme is to run for a twenty four month period and provides a monthly sustenance allowance of Rs 1458. This sum has two distinct components, Rs 1000 being paid for consumption and the balance Rs 458 is towards encouraging savings. In addition to the above, a monthly investment and income generation component of Rs 1042 is made available in its entirety at the end of the twenty four month period. The planners feel that it would " build up their latent capacities and their asset bases through productive employment." Basically, the scheme, while keeping the poor sustained, enabled them to accrue an investment sum monthly, which at the end of the twenty four month period totalled to Rs 25,000 and was made available for investment on projects evaluated and approved as viable by the commissioner in charge of the programme. The scheme brought fresh hopes to those who had hitherto failed to take off into any form of productive activity.

The *Janasaviya* programme was effected in stages and according to the Annual Report (1992) of the Central Bank of Sri Lanka, during the first round of its implementation, which completed its operation in September 1991, 121,000 families were covered. The second round which commenced in December 1990, brought 103,664 more families into its fold and with the commencement of the third round of activity, a further 101,882 families were reached. Accordingly, a total of 326,546 families have so far been benefited. The target is to get 1.4 million families into

the programme. The 121,000 families who benefited by the first round of the programme, were each issued with capital entitlement certificates with a face value of Rs 25,000 in September, 1992. This sum provides a capital base for the beneficiary to invest on projects. It also enables each beneficiary to draw a monthly interest of Rs 250. Since its inception in October 1989 until December 1992, a total sum of Rs 10,113 million (£135 million) has been chanelled into it. The report adds that the total cumulative savings generated out of the consumption allowance amounted to Rs 1,986 million (£26.5 million) at the end of 1992.

By and large, the programme gave the rural people who lacked the opportunity a fillip and helped them raise their living standards through the creation of employment opportunities in agriculture, fisheries, manufacturing industries, trade and commerce. The scheme provided a further impetus through the provision of considerable amount of credit to promote income generating activities.

6.18 Taking Promising Industry to the Village

In Sri Lanka, the garment making industry is one that was observed to have undergone very high growth and forms an activity which holds high potentials as a foreign exchange earner. In 1989, 185 million pieces of garments were exported with an export value of Rs 16 billion (equivalent to approximately US $ 400 million). By 1991, exports rose to 279 million pieces valued at Rs 34 billion (US $ 1 billion) and a further rise is foreseen in the year 1994, when a sum of Rs 50 billion is expected to accrue through its exports.

Having observed the potentialities this industry held, and given the labour intensive nature of the activity, the government wanted it to be decentralized and its location dispersed in the country, so as to spread the employment opportunities

it generated to the rural areas as well. This was a positive approach, intended to answer the needs of the neglected areas and bring about equity in respect of employment availability. In accordance with this policy decision, these garment factory sites were to be located in all the 200 decentralized administrative units, which were designated as Assistant Government Agent's (AGA's) divisions. Entrepreneurs establishing these factory units were called upon to have the larger interests of the community in mind.

Each of these factories was to employ 500 workers and they were to be drawn from the area of its location. This industry came to be a boon to the rural areas and helped to improve their quality of life, as an unprecedented number of both local and foreign entrepreneurs began investing in the rural settings of the country. Above all, the policy of the government was that the entire country be regarded and was accordingly declared an investment promotion zone for the manufacture of goods for export. The garment factories came to be installed with minimum delay as all the necessary infrastructure vital for the establishment of an industrial unit such as electricity, telecommunication, water suply and a network of roads was already in place. These promising industrial ventures that were taken to the villages benefited the masses as they began to bring about economic uplift especially to those in the rural areas where the industry has now got securely rooted. The upshot of it all was that it brought forth revolutionary changes in lifestyles which were seen to reflect in people's outlook. The quality garments turned out in these factories adorn shops in the outside world, establishing linkages with the sophisticated communities therein. Industry is often associated with the ill effects it brings about to the environment through the emission of effluents etc. The garment industry however has the unique quality of not disturbing the purity

of the Sri Lankan village.

6.19 Conclusion

All these moves and measures need to be regarded as a step forward and viewed in the context of a new equitable socio-economic order that is traversing the country. These changes should be regarded as a great leveller. They filled if not narrowed the gap between the haves and the have nots, and removed barriers that restricted privileges only to a selected residential category. The democratic process had brought forth both political and economic equitibility. It basically hinges on the motto that the nation building process needs to be routed through building the village.

A concluding remark would centre around regarding Sri Lanka as a region representing the serenity and the luxury of the village setting with nearly 80 percent of the population dwelling in areas administratively designated rural. But the underlying difference between the face of rural Sri Lanka and the rest of the region lies in the fact that it is a country where many of the urban services are found within the so called rural areas. These are an outcome of the welfare measures in force in respect of health, education, food, housing and transportation. These measures have had considerable impact in raising the real income of the rural population *vis a vis* the urban dweller, thereby narrowing the urban-rural differentials in effective income.

Although it is usually necessary to imply urban and rural as two distinct socio-economic spheres of activity, in the Sri Lankan situation the distinction is less marked due to the development of the society in general. When urbanism as a way of life sets into society, what matters is the development undergone

by society and hence urbanism does not become a trait acquired by those living within geographical entities deemed as urban places. Hence on sharpening one's focus what becomes crucial in respect of this argument is the presence of a kind of mentality and the associated way of life and behavioural patterns which go along with it and not the residential characteristics of society.

Therefore, understated urbanization in the Sri Lankan context, tends to cloud the prevalance of an all pervasive urban outlook which accounts for the general urban behavioural patterns, underplayed by the less meaningful urban-rural dichotomy. This has been established by looking at fertility and literacy levels and differentials which are seen to reveal a general convergence in the urban and rural areas over the years. Moreover, at the censuses of population and housing in Sri Lanka in 1971 and 1981, the literacy rates at the district levels by sex and by urban-rural residence reveal that both male and female rural populations in some districts held higher literacy levels than their urban counterparts. Above all, the overall picture indicates a narrowing down in differentials, with the urban population showing only slightly higher literacy achievements. It reiterates the fact that the social transformation now in force is able to permeate society in general, independent of the so called urban-rural categorization of the population. With an enlightened population, the effective transformation is attributable to the degree of receptivity that is shown by society. The developmental efforts, both past and present, have brought forth homogeneous characteristics within society. Having advanced in social values and norms, with aspirations for a better life, they possess an outlook towards modernization and are willing to accommodate change. The upshot of it all is reflected in the declining trends in fertility in the country.

Chapter VII

Summary and Conclusion

7.1 Education, Literacy and Fertility

The study has examined some agents of social change that contributed to the fertility transformation process. By and large it exhibits the desired effects that social welfare measures bring to bear on societies placed in developing situations. Unlike capital intensive development projects aimed at economic development, they are intent on societal uplift. The approach is direct and designed to provide the services the population needs for a better life. With literacy levels of males and females throughout Sri Lanka amongst the highest in the world, the significant outcome that the provision of free education has brought to bear on society becomes evident.

Education is central to the progress of societies. It helps in the process of gaining social mobility and acts as a window providing access to knowledge and liberating the society from mental stagnation. In addition to the value added to the educated in the labour market, the cultural advancement they attain in the process is regarded an asset, as it induces change and plays a creative role in that direction. Developing nations in the world need increasingly to rely on a host of roles played by education. It is primarily a gateway to success for the less resourceful who come up the ladder equipped to vie for positions in a competitive job market. In this respect providing education to women contributes to more cogent changes in society. It helps revolutionize their thinking in many ways, changing their values,

attitudes and aspirations.

Sri Lanka has a long and rich tradition in education, nevertheless the beginnings of formal education had to await the arrival of the foreigners. The Portuguese, Dutch and the British extended the learning process through missionary activities. It meant education coming within easy reach to those identified with the new faith. These missionary activities, *a priori* to education, triggered the re-awakening movements led by both the Buddhist and the Hindu revivalists, resulting in establishing schools with the indigenous religious identities in the 1890s. A stamp of this historical background in education is seen reflected today in the varied denominational schools in the country. Despite this diversity and their links with the different religious sects, they contributed together towards social progress through their support without any contest or fury to the cause of education. There is today a great mix of students belonging to the different religious denominations in most schools. With the government stipulating through the Ministry of Education the code of conduct for schools, there is consistency in what is imparted and the effort is to achieve common goals.

A major event in the educational process in Sri Lanka was the introduction of free education in 1945. This meant that the entire educational process of a child from primary level to that of the university was declared free. In pursuance to this liberal offer by the state, there were others, such as the transfer of the learning process to the mother tongue in the 1960s. The aggregate effect of all these steps meant a very large expansion in education, with enrolment of both male and female students having shown an upward trend in schools, so that now there is a convergence in the male and female student enrolment rates. It is encouraging to note that the government budgetary provision kept pace to accommodate this

surge with an increase in outlay (Table 2.1). These measures, providing equal opportunities to all, sowed the seed for the long term social benefits to be reaped by society. This transformation meant that the prospects of upward social mobility ceased to be the privilege of only the elite.

The effect of these efforts at providing universal education was seen in the progressive improvement in the literacy rates in general, with the female literacy showing remarkable advancement. This pattern was all the more significant after 1946, when alongside the upward trends accomplished in respect of female literacy, the difference from that of males kept narrowing down, with the males and the females having attained 91 and 83 per cent literacy levels by the time of the Census of Population in 1981. Such gains in female literacy are apposite to the fertility transition under review as they show negative association between the two. Similar relationships have been established between these two variables in studies carried out in the region. In addition, they reveal achieving the fertility lowering process through other indirect routes whereby when improvement in female literacy is obtained, both infant and child mortality tends to decline resulting in greater survival rates, a necesary pre-condition affecting the fertility transition process.

Side by side to the advancements achieved in literacy levels were those associated with improvements in educational attainments at the primary and secondary levels, where the differential between the sexes kept narrowing down with the passage of time. Social development dawned with female gains in education, as it helped them come out of the isolation of their homes into the open and onto to the mainstream of life which employment was able to offer. Parents benefiting by education wanted to provide their children with equal or even better education. However while undergoing schooling the value of children transforms from being a

producer to that of a dependant and the whole process is demanding in respect of resources despite learning being imparted free. By and large, parents have changed over to looking at children as an investment, providing a resource for the future. Their horizon having widened, the entire outlook in respect of aspirations and values underwent changes which favoured family limitation. Documented studies reveal educational achievements as crucial in determining completed family size. With compulsory education on the agenda of many a developing nation with high fertility, this route to transformation would tend to become more widespread. Education is basically central in activating if not determining the lifestyles and other behavioural norms in respect of the timing of family formation and helps to gain the ' know how ' in respect of regulating fertility.

An inverse relationship between completed years of schooling of mothers and children ever born has been established in Sri Lanka in studies using the 1971 and 1981 census data. The 1971 picture revealed that, amongst women in the 25-29 age group, those with no schooling bore 4.3 children, whilst those who pursued the learning process up to the GCE ordinary level had only 1.9 children and the performance declined further to 1.3 when they had GCE advanced level attainments. Such an inverse association was seen to be maintaining a consistent pattern in all age groups of the population. Despite questions on fertility being omitted in the 1981 Census of Population exercise, studies using techniques such as the ' own children method ' observed negative association trends similar to that uncovered in 1971 between completed years of schooling of mothers and their parity status to persist in 1981 as well. The World Fertility Survey (1975) showed similar agreement in its findings in respect of educational attainments of women and their parity. Furthermore, a micro survey of the multi-ethnic district of Put-

talam (1981) and the Sri Lanka Demographic and Health Survey (SLDHS) had in addition established a similar negative association between fertility and educational levels attained by ever married women in Sri Lanka. Many empirical studies carried out in both the developed and developing countries have established such a negative relationship between these two variables and there is general agreement that, amongst the social variables interacting with human fertility, education is widely accepted as the strongest in generating societal change.

Inferences are not made based on education being imparted to selected groups, rather they are based on mass education as the starting point for action and change. Nevertheless there have been some Swiss studies whose findings are contrary to the above. They are an outcome of pro-natal policies adopted either by governments or the Church where the provision of educational opportunities and the achievemnts gained therefrom came to have strong linkages with fertility performance. Other studies report an increase in fertility attributable to " better times," including better health. This interpretation tends to gain acceptance in Sri Lanka in respect of the improvements that the population in general experienced after the eradication of malaria in the 'forties and on providing a "better life" to the Estate population in the 'eighties through programmes of societal uplift.

Above all, in relating fertility to education, there are other religio-cultural factors that need to be taken into consideration. They may not conform to the popularly hypothesised inverse association between educational advancement and fertility; for example sometimes religion and wealth tend to have positive association with fertility, as amongst the North Nigerian Muslim population.

The preference for sons over daughters has been another important consider-

ation. Studies have revealed that the obvious outcome of such desires had often led to larger families. These studies however lack consistency in their findings as in certain instances it has been reported that with more male issues the desire to have sons was on the rise. Some studies associate son preference with the economic value they offer to parents who can opt to live with them in old age, as living with daughters would entail seeking the support of another's son, the son-in-law, for their sustenance. Such intentions, the studies reveal, go to the extent of adopting male children to answer their needs. There are other studies, leaning on the land-labour demand hypothesis, which profess larger number of issues as an asset to man large landholdings. It is highly unlikely that this line of thinking would gain acceptance in the context of the availability of farm machinery, especially to work on large holdings.

Sri Lanka, with free education and the resultant equalization of opportunities it offers to all, has narrowed the economic value that existed amongst the sexes. Women now gain access to all services and professions in the country. Children's strength came to be adjudged on the basis of the support they were capable of offering to the family. On this score, the women have now graduated to a position that places them at par with men. This has undoubtedly weakened any value children held in respect of their gender identity. Nevertheless, the inborn cultural construct of a society of wanting a male child could yet stay, with priorities varying amongst individuals, but how much it would determine the fertility behaviour of populations remains unanswered.

Concluding the subject of son preference, it may be necessary to indicate that with the sex determining techniques now at hand, one has to regard the preference exercise and its consequences as a story of the past. However, as to what proportion

of the population would become fully aware of the methods involved so as to be conversant to adopt it, would remain a point of doubt if not of debate.

In Sri Lanka, universal education has translated its effects on society, and it has had its greatest impact on women and on their reproductive behaviour. With the continued importance being paid to education and with the unabated efforts at improving educational standards in this island country, low fertility performance would tend to remain the norm in reproductive behaviour.

7.2 Age at Marriage

Sri Lanka has experienced a phenomenal rise in the Singulate Mean Age at Marriage (SMAM) from 21.9 to 24.6 between 1960 and 1984. Tsui *et al* (1991: 93) state that " the typical woman leaves school at age 15 or 16 and does not marry until age 24 and the birth of her first child follows approximately 18 months later." Late marriage has its significance in lowering fertility levels, for women get exposed to marital union during a more limited period within the reproductive span. The later the exposure occurs, the less fecund becomes their reproductive ability. Amongst the factors contributing to this trend, universal education needs to be regarded as central. There are yet other factors associated with the cultural milieu surrounding society that delay marriage, but which may be regarded as playing a lesser role when compared to the transformation that education was able to offer society.

The essence of studies on the subject reveals that late marriage depresses fertility performance. Women who marry at ages below 15 have an average of 6.3 births, while those postponing marital life to ages 22-24 had only 3.2 births. Studies carried out in other countries of the region established the negative association

between age at marriage and fertility. Although in China, fertility curbing efforts were made on varying fronts; including family planning measures and legislative measures, in Sri Lanka it was basically a voluntary process of social change that brought about the rise in age at marriage without any compelling need to abide by any legislative enactments.

In Sri Lanka, most of the declines in fertility during the 'seventies and 'eighties have been accounted for by rising age at marriage. A crude birth rate of 27 births per thousand population in 1974 declined to 23.4 in 1987 and then to 20.9 in 1992. Similarly the Total Fertility Rate of 3.4 in 1974 declined to 2.7 in 1987 and to 2.5 in 1992. The Sri Lanka World Fertility Survey (WFS 1975) and the Demographic Health Survey (1987) have both revealed the prevalent upward trends in the age at marriage. The WFS study brought to light the fact that women with children desired to have no more and the proportion holding this viewpoint increased with higher parities. Alongside this phenomenon, the accompanying rise in age at marriage observed amongst men helped to accommodate the cultural need to maintain the age gap between men and women at the time of marriage.

Studies have unravelled that the age gap requirement needed to match couples for marriage was found to be unfavourable at points of time. It is no doubt a convincing exercise in demographic research, but as to how much it contributed to a "marriage squeeze" situation needs to remain unclear. An acute unemployment situation in the early 'seventies and the resultant militant activities may have caused this imbalance in pattern. The former situation resulted in a reduction of the male cohorts of marriageable age due to an exodus caused by emigration in search of employment, and the latter in the heavy loss of lives that occurred during the same period when their uprising against the state was ruthlessly crushed.

The proportions never married and currently married form an index of the trends in nuptiality in the country. Census data over the years reveal an increase in the proportion never married both amongst men and women, with women showing these characteristics to a greater proportion than men especially in the age groups 20-24 and 25-29. A mirror reflection of these trends is seen in the decrease in the proportions currently married amongst the men and women.

The above turn of events in respect of nuptiality behaviour was observed to be all the more significant as they seemed to have occurred despite an increase in the number of women in the reproductive ages during the aforesaid period. Such marriage patterns ought to have depressed the fertility behaviour of the population. These changes are reflected in the declines that occurred in the Age Specific Fertility Rates (ASFR) during the 1962-87 period which provide convincing evidence of the transition to lower fertility. These findings stand corraborated by the Sri Lanka Demographic and Health Survey (SLDHS:1987). Linked with these changes were the declines observed in the marital fertility. A weighty argument is centred around the opposing demographic scenario where the increases seen in women in the child bearing ages has had a negative effect on the fertility performance and needs to be regarded as an imprint of the societal transformation that had permeated society.

7.3 Socio-economic and Cultural Influences

Alongside the changing demographic determinants that have contributed towards transforming the nuptiality behaviour of the population, were others of a socio-economic and cultural nature and are vital in determining the marriage consummation process in the country. In developing societies as in Sri Lanka, the

marriage accomplishing process calls for adequate resource support with the male having to be resourceful. Employment is essential for males to be deemed as qualified to marry. Females qualify for matrimony on attaining age, but a male's mettle has to be established through a job he holds. Hence any booms and depressions in the economy would have its repercussions on the feasibility aspects of marriage. Superimposed on these are other fresh norms which have surfaced. These are traits especially associated with the gains women achieved in education and the concomitant changes in values and aspirations to be independent. Associated with these changes is the desire for males to have a working wife, a want having its roots in the high cost of living and the tax incentives provided for working couples.

In addition to the prevalence of a favourable climate in respect of the economic standing of those on the threshold for marriage, there are other areas of compatibility that need to be meticulously matched before consummation of marriage. In this regard, it is to be noted that despite the social progress that the country has seen after the 'forties, the society remains relatively conservative in outlook and finds it hard to abandon practices that are strongly linked with the cultural legacy of heritage. In this regard, the prevalent caste system which is a social organization, having an ocupational basis, has brought rigid societal segmentalization. The main feature of this division is that amongst both the Sinhalese and the Tamil communities, irrespective of their religious identity, the system has assigned a social rank, some being high in the hierarchy and others lower down in it. Marriages outside the limits of one's caste are abhorred as even wealth and the riches of a 'low caste' will not help outshine nor conceal the social stigma attached to it. Hence these matters are matched at marriage so as to retain the family honour and standing in society.

There are yet others, like the horoscope which is matched to ensure a blissful married life. The horoscope that is cast, using the time of birth of an individual, gives details of the planetary positions at the time the event occurred. These planetary positionings are the determinants that foretell the life of an individual. The nature, talents, capabilities and above all the sum total quality of an individual's life are again regarded as an outcome of planetary influences. These determinants are not static, as with the changing planetary and constellatory positions, changes in life occur. Any 'ups and downs' in a subject are thus foreseen. The fundamental reason behind horoscope matching is to ascertain whether planetarily there is compatibility amongst a male and a female to embark on marriage. To achieve this end, astrologers use the charts of the subjects that spells out the constellatory positions which forms an aid to uncover their essential traits.

Compatibility is sought in various aspects of the horoscope. The *Graha* (Planets) are examined. The Moon, Jupiter and Venus are planets which are beneficent to subjects, whereas Saturn and Mars play malificent functions. The subjects compared come under the influence of a combination of both at different points of time. In the match- making process, a male chart with more of malificent effects needs to find a match with a female having similar qualities in her chart. Alternatively, those having counter constellatory effects in their charts are necessary if horoscopes are to be matched and compatibility achieved. Similarly, other horoscopic determinants that contribute to a happy wedded union such as *Tali* in respect of longevity of marriage and *Ayul* for life in general are compared. Sexual compatibility, referred to as *Yoni*, is determined by matching the animals associated with the constellations of the subjects. The optimum matching on this score is achieved when both the male and the female's planetary determinants are associated with

female species of animals. If the subjects are associated with the male species, the compatibility is regarded as moderate. As for *Naksatra* (Asterism), when the male and the female are born on the same Asterism, compatibility could achieved with ease. *Ganam* (Divine Support), an area in the horoscope which identifies whether the subject is influenced by 'divine', ' human' or 'demonic' species. Optimum levels of agreement are reached when subjects are horoscopically identified with the same species e.g. the 'human' with the 'human.' A match made between a 'human' and a 'divine' is tolerable , but a 'demon' and 'divine' is regarded as highly discordant.

Another vital element in match-making is *Mahendram* (male heirs). In the societal context under review, fulfilment in marriage is considered as being achieved only on bearing children. This area of compatibility is based on the location of the sun and the rising star at the time of the birth of the subject. Parental concern about children and especially male children is answered by probing into this aspect in the horoscope. Two other elements *Rasi* (Sign of the Zodiac) and *Rasi-athipathy* (Lord of sign) are horoscopic determinants based on the position of the moon in each chart and in respect to each others charts. The proximity and the distant factor form the basis to ascertain the degree of compatibility. *Vasiyam* (attractiveness) is another vital element where agreement needs to be sought. Although there is inbuilt passion amongst the sexes, any special attraction that arises between a male and female, may be accounted by using the planetary determinants. Hence any distinctive attraction that one has to another would be a "self contained" phenomenon which stays within themselves and may have less effect and meaning to others.

These aspects get uncovered in the horoscopes to be matched and are deemed as contributing to lasting happiness in marriage. Similarly, compatibility in respect

of *Vetai* (mental compatibility), is also determined for marriage. As much as sexual compatibility is determined through a process of matching male and female animals identified with the constellations, there is yet another area of matching which seeks compatibility with the vegetation and is termed *Viritcam.* It is mainly to determine whether the vegetation with which the subject is identified is latex borne or not and in the matching process, if the male and the female constellatory determinants are both associated with latex borne vegetation, the combination is regarded as very favourable for human fertility.

Each of the above is assessed in the light of the degree of agreement they show and an aggregate showing 80 per cent or more in respect of the varied elements of compatibility is declared as conducive to pursue. These determinants are foreordained and one is born into its frame and has to live with it. These are karmic determinants of individuals over which one has no control. A child is born with specific positions of the planets that determines his or her life cycle pattern. Being born with a favourable combination of the constellations or not is attributed again to karma, it is what one reaps due to his or her own actions, an inevitable situation and astrology is a technique that helps to uncover if not to interpret it.

When compatibility in areas such as caste and horoscope are accomplished, there are yet others associated with resources that are vital in realizing the objective of marriage. The granting of a dowry to the bride by way of offering cash, property, jewellery, lands etc. is an obligation to be met by her parents. A prospective male, well placed professionally is attracted into marriage through the offer of a handsome dowry. At the proposal stage of the marriage, those who negotiate would place the dowry as the terms before the male's parents. When there is occupational security along with assured old age pension, the resourceful would

offer an attractive dowry. Also parents with meagre means but who have a son professionally well placed tend to demand in addition to a dowry, a kind of 'grant' to be utilized to settle an unmarried sister. It is a method of ensuring a future for the female sibling before giving the male member away in marriage. At times to answer such a need dual-marriages are worked out, whereby a brother and a sister marry another brother and his female sibling which brings mutual benefits to both families.

These practices however tend to vary amongst ethnic groups. The Tamils and the Low Country Sinhalese follow the dowry system to a greater degree than the Kandyan Sinhalese. The Muslims however practise a system whereby the male offers the *Mehr* to the female. It is a practise that has more of legal and religious connotation than adding economic strength to either party. In observing these customs the Sri Lankan Muslims are not alone, as it is a general practice and was observed by the writer to be in force amongst the Nigerian Muslim community as well.

7.4 Changing Status and Roles of Women

Observing the undesirable commercial outlook that surfaces at marriage, attempts made in the late thirties to curb the influence of the dowry system through legislative measures failed and the subject did not enter the fray therefter. Albeit the system when affordable by parents provided economic security and strength to a female who entered a new household, most could not afford to meet it. The only visible transformation seems to get routed through the changing roles and status of women in society. Universal education has put women at par with men who yearn to have a working wife. With gender bias fast waning, women having gained

economic strength through gainful employment could be regarded as possessing economic viability, an attribute that was only a forte of men.

The constraints arising from an economic standpoint may be resolvable through progress achieved on the educational and employment fronts, but those associated with Karmic determinants as the caste and those linked with the planetary construct are irrevocable and may remain as characteristics hard to wean from the societal fabric.

Generally, it is hard to unravel the many and varied behavioural and perceptional aspects and feelings of women that contribute to the fertility lowering process. They may partly be attributed to the gender traditions determining it which in Sri Lanka are so varied due to its ethnic diversity.

In the societal setting under review, the contribution made by women to the family gets underplayed as their labour is neither paid nor gains statistical significance. Hence the proportion of women regarded as economically active in the census and survey findings becomes an inadequate measure of their participation in the nation building process. Fortunately the United Nations has stepped in to rectify such shortcomings by requesting information about the work women perform in the home and on the farms. These changes would help unravel the intrinsic roles played by women in the transformation process.

The term 'status of women' might connote the inter-gender variations but the present analysis is associated with the demographic significance it holds and hence the concern is more with the position women hold *vis a vis* that of men both at home and in society. Therefore gender inequality tends to be contextually relevant and conveys a more apt meaning. Demographers now regard the status that women

hold as having significant effects on the levels and trends in fertility performance.

There have been efforts by the United Nations to strengthen the position of women in society. The decade of women (1975-85) with 1975 declared as the International Women's Year formed the beginnings for basis of action. Plans and strategies mapped out aimed at removing discriminatory policies against women. The adoption of an egalitarian outlook by governments in respect of the socio-economic and political aspects of life of women was regarded as a step in the right direction. By and large, there was consensus amongst planners and researchers that gender issues have implications on the population dynamics in general and more specifically on fertility and family formation.

The position women hold within the household may influence their fertility levels. They tend to vary according to the different societal and cultural settings in which they are placed. Women who depend solely on their husbands may feel uncertain about their future and a higher fertility performance might instil a sense of security within the household. It has the added benefit of enhancing them with the help they need to handle a variety of household chores. Alternatively for women in gainful employment, contributing to the family resources, there is less of a need to produce children and more of them as they feel fortified and independent. Hence high fertility is an outcome of dependency of women coupled with their playing servile roles in the household and remaining cut off from partaking in activities outside the home. All in all, in such situations women are hardly in a position to contribute in the decision-making process as their voice in matters of childbearing may be unheard.

On the contrary, female autonomy and the resultant equality that surfaces

helps bring about greater dialogue between husband and wife in matters of fertility and fertility control i.e. the adoption of contraception within marriage.

Having borne children, their survival depends on many factors. Although the availability of medical facilities is vital, mothers play a critical role in bringing them up. Studies have proven that mothers who are educated and have the freedom to decide, would subscribe to greater child survival. But women living in seclusion, a cultural conduct associated with the Muslims who with limited education and scope for employment, show higher levels of child mortality. Specific studies have identified such traits amongst the population in the northern states of India whilst the southern states with female autonomy and literacy had contributed to higher child survival rates. These trends have repercussions on the fertility levels of population as when child survival is low the fertility performance needs to remain high to function as insurance births. Therefore the basis for lowering fertility is related to the levels of child mortality which hinge on the degree of autonomy, literacy and the position women hold in society.

The traditional Sri Lankan society has been patriarchal in character and had a societal structure that was based on the caste system. Women were dutiful and devoted to performing household chores and held their husbands in high esteem. Changes in the societal structure began to set in with the country being ruled by three foreign powers, the Portuguese, Dutch and the British for four and a half centuries. However it was during British rule that changes in many fronts began to surface with the introduction of plantations, when women entered economic activities. It also marked the rise of the bourgeoisie and the working class, a societal stratification different from that determined by the caste system.

The British period also witnessed the beginnings of the outcry by women wanting equal rights and privileges with men. These moves were an outcome of the widening outlook that educational opportunities provided for women during foreign occupation. Christian missionary activities got effectively routed through co-educational institutions and through those which functioned as sister schools to boys schools. The establishment of girls schools gained strength during British rule as they benefited by such moves in Britain. Affinity with the British system was closely maintained as success at the secondary school level was adjudged by the same examinations as the Cambridge Senior. With the turn of the century the benefits for women in the sphere of education brought about significant changes to their life as they came to be gradually equipped to enter the professions which were hitherto only a male bastion. The transformation not only helped them take to professional careers but also saw the emergence of political consciousness amongst women, signalling the beginnings of more changes to come. A major benchmark in this direction was seen when in 1931 universal adult franchise was granted by the Colonial regime. It had been a major step forward for the women of Sri Lanka as they were granted a right which was given to women in Britain only three years earlier. These moves alongside those enacted in the forties providing mass education to all laid the foundation for the dominant roles women played later in the political arena of the country.

7.5 Female Education

Providing an education to women has had greater impact on the entire transformation process than limiting it to men, as women formed a better media for both interaction and dissemination of knowledge in the household and formed a starting point for dialogue and discussion in respect of family size and fertility

control. Women's educational attainments, their work status and the resultant changing roles in society have helped achieve the fertility transition under review.

With the introduction of free education, a phenomenal increase was seen in respect of co-educational institutions and enrolment rates of girls in schools. By 1971, 95 percent of schools provided co-education and the participation rate of female students aged 10-14 was 72 per cent, which was higher than the males, the 15-19 age group also showed higher female participation rates than males. Figures for 1991 reveal that there are greater proportion of girls than boys in grades 6-10, 11-12 and 6-12. The age-specific enrolment rates between 1981 and 1991 again show the females outnumbering males in the age groups 15-19 and 20-24. A negligible difference of 0.1 and 0.9 in the 5-14 age groups where the males exceed the females in the years 1981 and 1991 respectively needs to be attributed to the non-availability of data for 480 schools located in the north and east parts of the country where there is political unrest.

These trends, recording high enrolment rates of females in secondary schools were soon being reflected in the universities. In 1942, when the University of Ceylon was established, women students formed only 10 per cent; the proportion rose to 44 per cent by 1970 and thereafter it ranged from 40 to 43 per cent. The yearly entry of women students has also kept to a proportion higher than 40 with the 1991 figures showing an impressive 47.8 per cent female undergraduate entry. On a closer look at admissions by faculties of studies, women outnumber men in all areas of study except in the Physical Sciences. This trend has been rather consistent during the 1981-91 period. The Arts faculty has had the highest intake of women with proportions reaching as high as 70 per cent in 1990. Hence it is a situation where in Sri lanka the women seem to outstrip the men in higher

learning. The background to this degree of transformation lay in the provision of free education which freed females from being discriminated against by parents who preferred educating the sons when the availability of resources were either limited or marginal.

The phenomenal expansion in education was reflected in the literacy levels attained by women which rose from 43.8 per cent in 1946 to 83.2 in 1981 thereby narrowing down heavily the differential that existed between the sexes. All in all, women seem to have advanced in literacy at a greater pace than men over the years.

7.6 Female Employment

The headway women made in education helped them into employment outside the agricultural sector which in turn contributed to lower fertility. Census data from 1946-81 has been analysed to look at trends in female labour force participation. The figures shown had however to be interpreted with caution due to the definitional changes that came into application at the decennial censuses. Having allowed for changing definitions, it revealed that the crude, refined and the age-specific activity rates of females in the labour force showed an upward trend. However, knowledge of the changing concepts and definitions in the labour force over the years and the nature of the employment structure in Sri Lanka is necessary for a fuller understanding of its course.

The transformation taking effect amongst women is apparent on examining the occupational structure as women are engaging in non-agricultural occupations in larger numbers than in the past, and the change seems to be more significant than amongst men. Women are taking to white collar jobs, the numbers having dou-

bled with the proportion increasing from 35.2 to 48.7 over the 1971-81 intercensal period. A detailed look at the occupational structure during the 1971-81 period reveals a phenomenal rise of women engaging in administrative and managerial work. Increases were observed in respect of professional, technical and related occupations and in the sales workers category. The striking aspect of these changes is that the degree of increase outstripped the pace amongst men. An extraordinary aspect is the decline that is seen in women engaging in agricultural occupations. By and large, women have begun to take up employment in areas which were earlier manned by men. Female education coupled with changing recruitment policies that were enacted helped women enter the echelons of almost all services in the country. It is a clear evidence of the basic changes that had undergone in respect of what women now yearn for in Sri Lanka. It is a desire to play non-familial roles outside their homes which is a reflection of their educational attainments, and contributes to a rising age at marriage leading to the fertility lowering process.

Although the association between female labour force participation and fertility is regarded as negative, in situations where mothers engage in domiciled remunerative activities, child rearing co-exists with their economic functions. However for women employed in the modern sector their occupational and familial roles clash with one another thereby encouraging the family limitation process. Basically for career women, the opportunity cost involved in having additions to the family restrict fertility behaviour and studies that establish the negative association between labour force participation and fertility need to regard it as the underlying cause. Nevertheless, a deviation to the above may be found in developing countries among extended families and in situations where the availability of cheap domestic aid employed to care for children may reverse this association.

But the pattern that unfurls in Sri lanka is a progressive rise in female labour force participation and a decline in fertility. By and large, the general increase in the labour force since 1963 is attributed to the entry of women in large numbers. Studies using census data have established that the fertility levels of women in the labour force are less than those outside it and that the inverse relationship is more significant among the urban women than those in rural areas. Any such differentials may be an outcome of the variations in the role compatibility that may prevail in the rural areas as against its conflict in respect of being a mother and an employee. Although there is a negative association between women in the labour force and fertility, the real effects on fertility are mostly an outcome of the educational levels attained by employed mothers and their higher ages at marriage rather than their participation in the labour force *per se.*

Much has been documented and said about women's autonomy and its impact on fertility. Early marriers are dependent on their husbands for survival and hence enjoy less autonomy. But education equips women to accomplish a status in society. It had in Sri Lanka helped them into gainful employment and thereby avoiding the compelling need for employed women to marry early. But within marriage it is not the autonomy *per se* that a woman had achieved through employment that directly matters in lowering fertility. Because despite the wife earning, the husband could yet have control of resources. The writer is inclined to believe that a more critical issue is not the autonomy achieved by women through employment that lowers fertility, rather it is the hardships women have to face in bringing up children while staying in employment that curb her natural fertility. Hence it hinges on economic factors as it is basically the conflict that accompanies remunerative employment in bringing up children that determines their fertility behaviour and not the power

relations existing between the sexes. In Sri Lanka an attractive dowry tends to enhance the status of a woman in the household as it endows on her power, prestige and control of resources. However, the impact such autonomy has on fertility has to remain a poser and needs await further research.

7.7 Estate Population

The Indian Estate population is a legacy of British rule. They were brought as indentured labour during the late nineteenth century to work on the plantations located in the central highlands of the country. Their immigration was highly purposeful in nature, and their rates of participation in the labour force were kept to a high rate with the majority working on the estates being women. During the last few decades, these women showed abnormal fertility behaviour, as their fertility levels were lower than the other major ethnic groups in the country. Detailed investigation of these trends reveal that their high degree of participation in the labour force only reflected their low economic status and hence there were other negative factors which caused it. The nature of work they perform is hard and being poor they have to continue with it to eke out an existence. The low fertility performance is a clear reflection of their physiological inability to reproduce.

The World Fertility Survey (1975) data revealed that the Estate Women had a lower mean age at marriage than the other ethnic groups. Nevertheless, their marital fertility was lower than the national level and this was all the more puzzling as the Estate women revealed limited use of contraception than the rest of the population. The fertility of these women has been on the decline from the forties to the seventies but showed a rise in the early eighties. It is interesting to note that during the 1946-53 period when the fertility performance of all other ethnic

groups in the country showed a rise, the Estate women maintained a declining trend, notably the lowest of all. However in 1981, their fertility was observed to be rising when the other ethnic groups showed declining trends. This abnormal fertility behaviour called for investigation.

The Indian immigrant Estate Tamils were drawn from the poorest societal settings in South India and were made to live in the plantations under squalid conditions in respect of health and housing with educational facilities kept to the barest minimum. Generally all services were sub-standard in nature when compared to those provided in the rest of the country. Their literacy levels were low and they remained a poverty stricken lot with aspirations limited to working on the plantations for survival. In 1948 by legislative enactment, they were deprived of their voting rights. This came as a major blow to their citizenship status in the country. Above all, they were not being represented in the state legislature and came to be a neglected lot.

Consequent upon this deprivation their demographic indicators were in variance with the rest of the population. Their crude death rate and infant mortality rate were higher than all other ethnic groups and those recorded at the national level, as a result their life expectancy levels were also lower than at the national level. At the same time desirable changes were taking place at the national level when the life expectancy of women in the country overtook the men in 1963, deemed as progress in the right direction. However studies as late as 1976 which analysed district level data revealed that the female expectancy level of women in the plantation districts still lagged behind that of the men, with the pattern persisting into the eighties as well. It provided convincing evidence of the poor health and nutritional levels of the Estate population when compared to the rest of the

country. Sector surveys revealed that they have the smallest household size, being a mirror reflection of the fertility and mortality performance. They live under the most appalling housing conditions with families being housed in a total floor area of approximately 11 square metres when the same floor space is the average per person at the national level. Consumer Finance Survey data reveal that the Estate sector has the lowest income levels in the country with the highest proportions of them earning wages below 500 rupees and an approximate 77 per cent deriving income through wages. By and large the Indian Estate population live in a state of poverty.

The nutritional levels of women determine their reproductive ability. Poor nutrition results in delayed menarche that disturbs the ovulation process thereby affecting the menstrual cycle. Hence there is positive relationship between reproductive ability of women and their nutritional levels. Surveys reveal that the malnutritional levels in the estate sector were the highest and that nutritional deficiency among children has resulted in stunting and wasting. Their low nutritional levels and the accompanying morbid state could be partly attributed to the illiterate state of this sector of the population.

Their fertility behaviour is not in agreement with the normal correlates prevalent amongst populations in respect of labour force participation and age at marriage as despite them recording high levels of participation rates in the labour force and early marriage, their fertility is low. These anomalies stem from the negative aspects of their lives. Studies attempting to unravel these aberrant tendencies have come up with women's poor health, nutritional levels and the accompanying foetal loss as the cause. Others attribute it to continued breast feeding and the resultant postpartum amenorrhoea. Given the hard work these women perform

on the plantations on steep mountain slopes, coupled with their poor nutritional levels they may not be potent enough to reproduce as they could be suffering from 'secondary sterility', unable to conceive and carry conception to live birth. The World Fertility Survey findings lend support to this line of argument as it records fewer pregnancies amongst them. Pathological infertility resulting from poor health could be another factor contributing to the incapacity to reproduce. However, a fuller understanding of their fertility needs the help of those living amongst this population as conventional methods of investigation might not uncover the enigma surrounding their behaviour.

Having employed women from the Estates of the age range 15-30 as domestic help in my household, I gained valuable leads in this direction. On being admitted to the household they were anaemic and weak. Despite having reached puberty, they did not menstruate. However, after a four to six months stay, their menstrual cycles began to function. My findings as a participant observer gain support in studies which have established an inverse association between socio-economic status and good diets with menarche.

In this regard, the societal deprivation that set in consequent upon the disenfranchisement of the Estate population in 1948, provides plausible explanation in accounting for the trends of events that occurred before and after this enactment. In 1946 the crude death rate and the infant mortality rate in the Estates were lower than the national level and the crude birth rate was higher. Hence the neglect that resulted thereafter may have contributed to the deterioration of life in the estates.

This is evidenced by the changes that surfaced when improvements set into the Estate sector. The beginning was marked in 1964 when citizenship was granted

to the component that was retained in Sri Lanka, with the rest being repatriated to India over a period of 15 years. The next major step was the nationalization of the plantations in the seventies which transformed the plantation workers as government corporation employees. Accompanying this change were others which brought the Estate schools at par with those in the rest of the country. In 1984, with the introduction of a uniform wage structure, gender disparities were removed. Better quality of life came their way when steps were taken to provide improved health facilities with health education given much emphasis. The provision of better housing was another major step taken towards their amelioration. The Ceylon Workers Congress, the trade union that represented them was a powerful weapon. Their leader, a Cabinet Minister along with four others represented them in the state legislature and were sensitive to their demands. Consequent upon these changes, the Estate sector came to benefit by all the welfare measures and when development strategies were mapped out they covered the plantations as well.

A turn in the fertility performance from one of falling trends to that of rising trends by the beginning of the eighties is a reflection of the transformation that this sector had seen in respect of the provision of amenities for a better life. The general fertility rates and the total fertility rate also reflect these rising trends. The rising course now visible gains support in recent studies as well as in the principle of population enunciated by Malthus that "better times" yields higher reproductive behaviour.

It is social change that transformed the demographic behaviour of this sector. However, the initial impact of the change in respect of reproductive behaviour had to be a rising trend. Having reached the threshold stage, it began its declining course. Similar declines are now observed in respect of all the mortality rates, a

clear reflection of the provision and availability of improved health and maternal care services. By and large these changes have helped wipe off the aberrant traits that persisted amongst this population for well over three and a half decades.

7.8 Urbanization of Population

A discussion on urbanisation *per se* might not have a direct bearing on this study. Nevertheless, since the fertility transformation process is found to have traversed society rather uniformly, the analysis includes the impact the urban outlook has had in effecting the transition under review. This outlook which is the viewpoint or the perception held by an urban dweller in respect of family size seems to have a wider spread in the country and not confined to the population quantified only as urban. Although the outlook of the urban dweller is closely linked with the process of modernization, the desire to move towards small family norms may be an outcome of the difficulties in respect of housing, schooling and the rising cost of living normally encountered in an urban setting.

Although the term urbanization is closely associated with the building-up process of urbanism, it does not connote the same transformation process in the developing countries, as a heavy influx of migrants into cities resulting in squatter settlements could give a deceptive picture to the process. This process of urbanization is not necessarily accompanied by development and modernization, but reflects the degree of over-urbanization that is taking place. The situation tends to get confounded as there is no universally accepted population size criterion determining urban places. Urbanization trends in the country since 1953 are quantitatively fluctuating, an outcome of the creation and abolition of urban places by jurisdiction, hence they fail to convey the pace of the real urbanization

in the country.

In Sri Lanka, urban areas are those that hold the local government statuses of Municipal Council, Urban Council and Town Council, with muncipalities having city status and the towns the lowest in the hierarchy. This classification is neither based on the population size nor on concentration. Glaring inconsistencies tend to surface when applying the population criterion, as those urban areas lower down in the hierarchy may have larger population sizes and concentrations than those higher in status. Moreover, there are village councils which form the local government authority for rural areas that have larger population sizes than those classified as urban. This has resulted in the presence of urbanized villages served by urban amenities. Arising from the above, is the fact that the degree of urbanization and the proportion urban in the country stays understated. Consequently it should not be regarded as a measure of the extent of urbanism that is prevalent in the country. The small and compact nature of the island, served by an efficient transportation network along with an effective mass media, had meant that people do not suffer from any element of remoteness and have the capacity to comprehend, immaterial of where they live. Their high literacy levels and the general awareness were qualities which underlie the outlook under discussion.

Sri Lanka has impressive mortality indicators, with an expectation of life at birth for males and females at 70 and 74 years respectively. An examination of mortality figures of districts populated predominantly by urban and rural populations reveal that some rural districts showed more favourable mortality performance than those with predominantly urban populations. In this regard, the sample chosen was representative as care was taken in its selection whereby they had an areal spread in the country and were populated by people belonging to all

ethnic groups. A good example is the Moneragala district with 97.8 per cent rural population having the lowest death rate of 3.2 per thousand in 1985. A study carried out in the south west of the country showed the absence of any urban-rural variations, as there was a uniform spatial pattern in respect of the availability of health services. This is reflected in the PQLI and expectation of life figures which are found to be higher in the rural districts than in those designated as urban.

The background to this performance lies in the free health services provided by the state, which is widespread in the country, providing coverage to preventive, curative and extension services. In addition to the services provided by the government, there are quality health services offered by the private sector with well equipped hospitals. The universities in the country train doctors and there are schools engaged in training paramedics. Side by side to Western medicine there are facilities offered by indigenous medicine. It is interesting to note that the last census of population revealed that 52 per cent of qualified medical personnel served in the rural sector and 71 per cent offering Ayurvedic medical services were located in the areas designated as rural. Above all, Sri Lankans in general independent of their residential status are highly sensitive to illness. Being health conscious they immunize their children, and seek medical attention when indisposed. With the services provided free they are within the reach of all.

Evidence in respect of the occupational structure of the population tends to enhance our knowledge on the changing rural setting. Alongside an overall increase that was observed in those engaged in non-agricultural employment during the 1971-81 intercensal period in the country, significant increase was recorded in the number engaging in non-agricultural pursuits in the rural areas. They are changes arising out of the rural industrialization programmes. Above all 75 per cent of

the workforce engaged in manufacturing reside in areas designated as rural. Hence rural residents engage in urban type employment. Recent studies have indicated that even those engaged in farming do not live in seclusion as they are in contact with the larger community, forming part of the overall system.

In respect of fertility, the main concern of this study, the urban-rural differentials over the years have shown a converging trend. In 1971, the age specific fertility rates by residence revealed that amongst the 15-19 and 20-24 age groups, women resident in rural areas showed lower fertility performance than those living within urban entities. A study made in 1984 adopting the own children method of estimating fertility showed similar converging trends. The Sri Lanka Demographic and Health Survey (SLDHS) in 1987 reiterated these trends and found that the extent of decline in fertility was significant in the rural areas where the TFR dropped from 3.2 to 2.8. This was a performance lower than that seen in the Colombo Metropolitan Area and in other urban areas. The survey revealed that knowledge of contraception was all pervasive, signalling the uniform outlook pervading society immaterial of the residential status assigned to them. Subsequent studies carried out in 1989 revealed that there was active dialogue amongst couples on contraceptive use amongst both urban and rural residents, providing convincing evidence of the universality prevailing in this outlook. These aspects combined with the effective family planning services offered by the government along with an islandwide easy access to contraceptive products places the population within easy reach of these services.

7.9 Developmental Programmes

The origins of this transformation stem from the developmental efforts aimed

at narrowing down if not removing the inter-sectoral imbalance that prevailed in the country. The beginnings date back to the pre-independence period when the plantations introduced by the British first affected the peasantry and later reached a stage of saturation in the wet zone when politicians and planners had to look to the dry zone for development. Land development in the dry zone was regarded as a step in the right direction as it was intent upon re-establishing the glory of the past when the dry zone with its ingenious irrigation system supported extensive areas under rice cultivation and which led to the country being called the granary of the east. These efforts transformed the dry zone districts into in-migration areas from the wet zone and hence were moves identified as occurring from urban to rural.

Internal migration studies of the intercensal periods of 1953-63, 1963-71 and 1971-81 have confirmed this trend in migration towards rural destinations. Districts in the dry zone which have more than 90 per cent rural populations have the highest gains. These districts have shown significant urban growth during the aforesaid period contributing thereby to the growth of small sized towns which have increased in number, a striking pattern in the process of urbanization. Moreover, the ESCAP (1980) study on migration, urbanization and development revealed that most of the in-migrants coming into the urban and rural residential categories belonged to the service sector. This is evidence of the migrants coming in to play urban fuctions which the transformation demands.

Another line of developmental action focussed on the districts, and an administrative machinery, the District Development Councils was established to implement it. The aim was to give greater recognition to the rural areas with the objective intent on industrializing the rural sector. Production units utilizing local raw material and labour were established. Superimposed on this development

programme were larger multi-purpose schemes like the Mahaweli diversion, which not only enabled the expansion of the acreage under cropping but also helped in the rural electrification and industrialization processes. With the installation of the necessary infrastructural facilities, the project area became a centre of activity resulting in the growth of small townships. These steps enabled the continued flow of migrants into the dry zone.

Side by side with these attempts at land development and agricultural expansion were others aimed at industrialization. These efforts were bent on decentralizing industrial activities so as to avoid the ill effects of congestion in and around the capital city of Colombo. Industrial estates were established and were well spread out in the country. Small-scale industrial units were established drawing on local raw material. From the late seventies, a policy of free enterprise set the market forces in action. A liberalized outlook led to the establishment of Free Trade Zones. Foreign investors were encouraged and an Investment Promotion Zone and an Export Promotion Zone were established. The upshot of these programmes gave a relative impetus to the hitherto dormant economy.

Abreast of the steps taken to industrialize, were those adopted to better the lot of the farmer through the provision of agricultural credit, guaranteed prices, subsidies on fertilizers etc. Legislative enactments gave protection to home grown items. These measures came to attract even professionals into farming as it was so promising. Moreover, with the provision of a uniform pattern of welfare measures in respect of health, education etc., the rural setting came to retain the population within its entity as the benefits therein outweighed any pull effect that an urban area could offer.

With an expansion in the construction of roads, the physical distance between the urban and rural areas narrowed. The network of roads linked the remote parts of the country and was served by the nationalized bus services which operated without a profit motive. An added feature in the development efforts had its origins in 1979 when the Integrated Rural Development programme was begun. The programme had forged ahead providing a co-ordinated package that included all facets of development. Basically this took the town to the country and removed urban-rural disparities. It was a diversified plan aimed at improving the agricultural and industrial sectors. The programme is adequately backstopped through financial assistance provided by international donor agencies and has an islandwide coverage.

The past decade and a half saw concerted efforts being made by the government to improve the lot of the people in general. They had the backing and support of those who steered the government machinery. The format and approach differed from earlier plans which began the rehabilitating process at the macro level. The programmes under review targeted family units so as to be operationally effective. They aimed at re-awakening society and bringing them into the mainstream of the larger developmental process. Superimposed on this action was the provision of shelter to the nation and the setting up of model villages with housing units. These steps augmented the welfare measures that were already in place.

The housing programme was an effort of a much larger magnitude. It began in 1977 with a target to build 100,000 housing units. Having achieved this in 1983, a project build one million houses was begun in 1984 and completed in 1989. This was followed by a one and a half million housing venture which is now underway. Notably, with 78 per cent of the population living in areas designated rural, 88 per

cent of the increase in housing during the 1971-81 intercensal period occurred in the rural areas.

The parliamentary democratic system has meant that elected representatives had to be responsive to the needs of the people. With such a large proportion of the population living in areas designated rural, the power element came to be determined at their end.

A fresh programme to rehabilitate the poor commenced in 1992. It provides initial financial backing to people so as to enable them to utilize their latent skills. The programme was called *Janasaviya* (Peoples Power) - *Jana* means people and *Saviya* refers to power. Its aim is to pave the way and set people in motion so that they get to a stage of being able to utilize their talents for their own benefit. It needs to be distinguished from schemes that provide income support for sustenance as it is designed with the intention of helping the people to become productive. The needy are sustained until the take-off stage. The target is to get 1.4 million families to benefit by the scheme.

By an initiative taken by the President of the country, the garment manufacturing industry, an activity that possesses high potential as a foreign exchange earner, was to be established in all the 200 decentralized administrative units in the country. The move came as a blessing to the rural areas as employment opportunities were being brought to their doors. These ventures not only changed the face of the region but brought significant changes in their life style. Hence it may be hard to regard urban and rural as two distinct socio-economic centres of activity.

Above all, what becomes crucial is not the presence of industrial units in

rural areas but the societal advancement that has accrued in the process. The uniform outlook that stems from the diffusion process has resulted in a generally enlightened society, receptive to change that is reflected in the fertility reduction in the country.

7.10 Conclusion

Sri Lanka, a developing nation in every respect, is nevertheless not undergoing the classical demographic transition in the form that was experienced during the last century by the industrialized nations of the West. In the developed countries birth rates declined only on achieving economic growth, which enabled improvements in health care and education. Advances in areas of health, which helped combat death, had to await innovative efforts, and hence the whole process stretched to many decades. In Sri Lanka, the demographic indicators declined with remarkable speed, having benefited by exogenous factors in respect of health and contraceptive technology. The country experienced a demographic revolution in both mortality and fertility, rather than a transition; the former in respect of falling death rates in the mid 'forties, and the latter, a revolution in respect of declining reproductive rates in the 'seventies. Hence, despite Sri Lanka's low per capita income level, its low fertility scenario reflects aberrant perspectives in its association with the conventional dictum enunciated in the relationship that economic development has with fertility. It is a clear case of social development, and the beneficial effects arising therefrom, having preceded sustained economic development.

The answer to this question lies in the policy of welfarism, adopted with a fair degree of consistency by all governments since the 'thirties, when better life

conditions were ushered in through programmes offering basic needs such as free health and education, and through subsidies in respect of nutrition, housing, transport etc. All such welfare measures and services were extended to reach society in general without any gender discrimination. The impressive social indicators in respect of infant mortality, life expectancy and literacy led to the country having a ' Physical Quality of Life Index '(PQLI) higher than that of Washington, D.C. (Farmer 1983: 225). Moreover, much attention has been paid in recent times to rural housing programmes and the provision of piped water. In this regard, the lot of the Indian Estate workers living in the plantations has recently received a fillip. Services in this sector have been greatly improved and it is intended to bring them at par with those at the national level.

In developing societies, we may then deduce that, as in Sri Lanka, the welfare measures which gain effective implementation form more potent instruments than economic development in contributing to the fertility transition process. By and large, they transform society through a process of social change. Fertility behaviour is primarily dependent upon the social milieu, accordingly changes in fertility performance entail social change.

Mounting education to the package of welfare measures was pivotal in generating changes that contributed to the transition reviewed in the study. With primary, secondary and tertiary education imparted free, a trail of changes was set in motion which contributed to lower fertility . First there was a change that resulted in a decline in benefits accruing to parents by virtue of having children in school. They became less of a resource as they transformed into being the recipients of the family resources. Therefore, with greater costs incurred and less benefits flowing to the household, the obvious behaviour would be for parents to

limit family size. The basic outlook emerges out of the underlying propellant, namely that the hardships that parents undergo in raising larger families outweigh the benefits they would add to parents in later life. Moreover, the advantage of having few, but well educated, children ensures the parents greater security in their old age, rather than having many children with marginal or no education. With greater earning power acquired by one or two children, they could provide adequate monetary support to parents in their old age as such children would be in a position to afford it.

The pre-transition needs to be regarded as one when couples felt that family size was a natural process and not a matter of choice. This is a stage when family planning services were either minimal or absent. Hence it was a state of helplessness in which parents were saddled with larger families. The current transition is an outcome of the greater awareness of the availability of the family planning services. Hence family size becomes an outcome of dialogue and choice. With universal education, women's attitudes, values and motivation underwent phenomenal changes. They came to show greater receptivity to contraception, with the dissemination of the message of family planning being made easier by the concerted efforts of the mass media.

In reckoning the degree of transition in fertility undergone in Sri Lanka, it is important to realize that alongside the process of social change which was decisive in its contribution, the role of contraception *per se* also needs to be given due recognition. The Swedish International Development Agency (SIDA) provided the necessary basis when it mooted its service programme in the 'sixties. With the general awareness thus created amongst the population, the government took efforts to train medical and paramedical personnel with the view to effectively

implementing it. In the process of implementation, the incentive schemes linked to both male and female sterilization programmes helped to attain the targets. In addition, a network of outlets was set up, through which contraceptives, especially condoms, were made widely available at a very nominal price. These outlets had an islandwide spread, as even the most remote village boutique in the country had them on sale. Therefore the easy accessibility and availability of modern birth control methods needs to be recognised as a factor helping the transition process.

The United Nations Fund for Population Activities (UNFPA), (now named as the United Nations Population Fund,) funded the establishment of the Family Planning Communication Strategy Project (FPCP) in 1973. The main aim of the project was to assist the government in adopting communication strategies associated with the nature of the population problem and highlight its effects on national development. It targeted selected groups to educate them in the benefits of child spacing and family limitation. Basically, it was an attempt at motivating them to adopt contraception. The project strategy included creating an awareness of population issues. They were to be achieved through a variety of methods. A national symbol aiming at a one child norm for Sri Lanka was put forth. Other approaches were through poster and brochure campaigns. The cinema and later the television were widely used in propagating the message of family planning. Films and filmstrips conveying vital messages to newly weds regarding postponing the first pregnancy and spacing subsequent ones were put out for regular showing. Other strategies adopted included the publication of colourful flash cards and flip charts to attract the attention of 'potential acceptors.' Finally, the programme kept researchers, planners and academics informed. This was achieved by commissioning both national and international experts in the field of population to write

papers and monographs to assist in the effort. These studies not only brought out the effect of socio-economic and cultural variables on population, but also the process of social change and its bearings on human fertility.

All these efforts focussed on target groups and were disseminated to reach a larger audience. In this regard, Buddhism and Hinduism, the religions of the two major ethnic groups the Sinhalese and the Tamils who together form 85 per cent of the population, posed no resistance to contraception and to family limitation. Therefore, by and large, the religio-cultural setting in Sri Lanka proved conducive to reproductive control. The upshot of it all was that the small family norm became embedded in Sri Lankan society, and needs to be recognised as the new outlook that came to prevail amongst the people. This outlook springs from the thinking that large families are an economic burden, as the people's patterns of living have considerably changed. Their demands for consumer items such as the television, radio, automobile, and a range of electrical appliances, have stepped up their living costs. All in all, it meant that people placed their priorities on material wants and it was very likely that the outlay needed to lead such a pattern of life would clash with that of having additions to the family. It is all the more relevant when the needs of children who form the next generation become far more sophisticated in what they demand than the generation which preceded them; for example, computers and other related electronic equipment that form part of their need to keep pace with changing tides in innovation in educational aids. In this regard, it is pertinent to recall the reference made in the chapter on education regarding the costs involved in educating a child, being despite the process of learning declared free.

Above all, for an enlightened society, exposed to the wider spectrum of opportu-

nities in the world with its accompanying lifestyles associated with modernization, smaller families came to be a conduit to help fulfil their aspirations. Patterns of family formation in Sri Lanka now represent those of affluent nations with late marriage and with child bearing delayed and spaced, resulting in low fertility performance.

The Sri Lankan lesson in social progress and societal change is no doubt reassuring, and one that other developing nations could follow, as it provides evidence of how a low income country can yet make significant headway in providing social welfare. This contributes to building up the necessary climate for higher living standards and lower fertility levels, even though economic advancement lags behind.

Bibliography

Abeysekera, G. (1986) Social Development, pp. 291-310, in *Facets of Development in Independent Sri Lanka*, Ronnie de Mel Felicitation Volume. Colombo: Ministry of Finance and Planning, Sri Lanka.

Afzal, M. *et al.* (1973) Muslim Marriages: Age, *Mehr* and Social Status, *Pakistan Development Review,* 12, 1, pp. 48-61.

Agarwala, S.N. (1965) Effect of a rise in female age at marriage on the birth rate in India, Unpublished Paper Contributed to the United Nations World Population Conference, Belgrade.

Agarwal, S.P. (1972) Interrelationship between population and manpower problems in the context of socio-economic development in the ECAFE region: Interrelation between population and manpower problems, Report and selected papers of a Regional Seminar, *Asian Population Studies Series,* No 7.

Alam, I and J. Cleland (1981) Illustrative Analysis: Recent Fertility Trends in Sri Lanka, *WFS Scientific Reports,* No. 25,

Anderson, N (ed) (1964) *Urbanism and Urbanization.* Leiden: E.J. Brill.

Bairagi, R. and R.L. Langsten (1986) Sex Preference for Children and its Implications for Fertility in Rural Bangladesh, *Studies in Family Planning,* 17, 6, pp. 302-307.

Behar, C.L. (1987) Malthus and the Development of Demographic Analysis, *Population Studies,* 41, 2, pp. 269-281.

Bogue, D. (1969) Families, Households and Housing Conditions, in pp. 367-390, *Principles of Demography.* New York: John Wiley & Sons.

Bongaarts, J. (1978) A Framework for Analysing the Proximate Determinants of Fertility, *Population and Development Review,* 4, 1, pp.105-132.

Bongaarts, J. (1980) Does Malnutrition Affect Fecundity? A Summary of the Evidence, *Science,* 208, pp.564-569.

Bongaarts, J. (1982) The Fertility Inhibiting Effects of the Intermediate Variables, *Studies in Family Planning,* 13, 6/7, pp.179-189.

Bongaarts, J. and J. Menken. (1983) The Supply of Children: A Critical Essay pp. 27-60. in Bulatao, R.A. *et al.* (eds): *Determinants of Fertility Decline in Developing Countries,* Vol. 1 New York: Academic Press.

Bongaarts, J. (1985) Fertility Inhibiting Effects of the Intermediate Fertility Variables, pp. 152-169. in Shorter, F. and Zurayk, H. (eds), *Population Factors in Development Planning in the Middle East.* Cairo: Population Council.

Bumpass, L. (1969) Age at Marriage as a Variable in Socio-economic Differentials in Fertility, *Demography,* 6, 1, pp.45-54.

Cain, M.T. (1978) The Household Life Cycle and Economic Mobility in Rural Bangladesh, *Population and Development Review,* 4, 3, pp.421-438.

Cain, M.T., S.R. Khanam, and S. Nahar (1979) Class, Patriarcy, and Woman's

Work in Bangladesh, *Population and Development Review*, 5, 3, pp. 405-438.

Cain, M. T. (1980) Risk, Fertility and Family Planning in a Bangladesh Village, *Studies in Family Planning*, 11, pp.219-223.

Cain, M. T. (1982) Perspectives on Family and Fertility in Developing Countries, *Population Studies*, 36, 2, pp.159-175.

Cain, M. T. (1984) Women's Status and Fertility in Developing Countries: Son Preference and Economic Security. Washington, D.C.: *World Bank Staff Working Papers,* No. 682. *Population and Development series,* No. 7.

Cain, M. T. (1986) Risk and Fertility: A reply to Robinson, *Population Studies*, 40, 2, 299-304.

Cain, M.T. (1986) Landholding and Fertility: A Rejoinder, *Population Studies*, 40, 2, pp. 313-317.

Cain, M.T. (1986) The Consequences of Reproductive Failure: Dependence, Mobility and Mortality Among the Elderly of Rural South India, *Population Studies*, 40, 3, pp. 375-388.

Cain, M.T. (1991) Widows, Sons and Oldage Security in Rural Maharashtra: A Comment on Vlassoff, *Population Studies*, 45, 3, pp. 519-528.

Caldwell, J.C. (1976) Toward a Restatement of Demographic Transition Theory, *Population and Development Review*, 2, 3&4, pp. 321-366.

Caldwell, J.C. (1978) A Theory of Fertility: From High Plateau to Destabi-

lization, *Population and Development Review*, 4, 4, pp. 553-577.

Caldwell, J.C. (1979) Education as a Factor in Mortality Decline: An Examination of Nigerian data, *Population Studies*, 33, 3, pp. 395-413.

Caldwell, J.C., (1980) Mass Education as a Determinant of the Timing of Fertility Decline, *Population and Development Review*, 6, 2, pp. 225-255.

Caldwell, J.C. (1981) The Mechanisms of Demographic Change in Historical Perspective, *Population Studies*, 35, 1, pp.5-27.

Caldwell, J.C. (1982) *Theory of Fertility Decline.* London: Academic Press.

Caldwell, J.C, P.H. Reddy, and P. Caldwell (1982) The Causes of Demographic Change in Rural South India: A Micro Approach, *Population and Development Review*, 8, 4, pp.689-727.

Caldwell, J.C., G. Immerwahr, and L.T. Ruzicka (1982) *Illustrative Analysis: Family Structure and Fertility.* Voorburg, Netherlands: International Statistical Institute, 64 pp. (World Fertility Survey Scientific Report. No. 39).

Caldwell, J.C., *et al.* (1983) The Social Component of Mortality Decline: An Investigation in South India Employing Alternative Methodologies, *Population Studies*, 37, 2, pp. 185-205.

Caldwell, J.C. (1983) Direct Economic Costs and Benefits of Children, pp. 458-493. in Bulatao, R.A., *et al* (eds) *Determinants of Fertility in Developing Countries.* New York : Academic Press.

Caldwell, J.C. (1986) Routes to Low Mortality in Poor Countries, *Population and Development Review*, 12, 2, pp. 171-220.

Caldwell, J.C., *et al.* (1987) The Role of Traditional Fertility Regulation in Sri Lanka, *Studies in Family Planning*, 18, 1, pp. 1-21.

Caldwell, J.C. *et al.* (1989) Sensitization to Illness and the Risk of Death: An Explanation of Sri Lanka's Approach to Good Health for All, *Social Science and Medicine*, 28, 4, pp. 365-379.

Calhoun, C.A. and T.J. Espenshade. (1988) Childbearing and Wives Foregone Earnings, *Population Studies*, 42, 1, pp. 5-37.

Carnoy, M. (1974) *Education as Cultural Imperialism.* New York: Longman.

Cassen, R.H. (1980) *India: Population, Economy and Society.* New York: Holmes and Meier.

Chidambaram, V.C., and A.V. Zodegekar. (1969) Increasing Female Age at Marriage in India and its Impact on the First Birth Interval: An Empirical Analysis. pp. 437-447. in *International Population Conference, London,* Vol. 1, Liege: International Union for the Scientific Study of Population.

Cho, L.J. *et al* (1968) Recent Fertility Trends in Malaysia, *Demography*, 5, pp.732-744.

Cho, L.J. (1971) Korea: Estimating Current Fertility from the 1966 Census, *Studies in Family Planning*, 2, pp.47-78.

Cho, L.J., (1973) The Own-Children Approach to Fertility Estimation: An

Elaboration, pp. 263-278. in Vol. 2. *International Population Conference,* Liege: International Union for the Scientific Study of Population,

Cho, L.J., and R.D. Retherford (1974) Comparative analysis of recent fertility trends in East-Asia, pp. 163-181 in Vol. 2. *International Population Conference, Liege.* Liege: International Union for the Scientific Study of Population.

Chowdhury, M.K. and R. Bairagi (1990) Son Preference and Fertility in Bangladesh, *Population and Development Review*, 16, 4, pp. 749-757.

Cleland, J. and J. Hobcraft (eds), (1985) *Reproductive Change in Developing Countries.* Oxford: Oxford University Press.

Cleland, J., and C. Wilson (1987) Demand Theories of the Fertility Transition: An Inconoclastic View, *Population Studies*, 41, 1, pp.5-30.

Cleland, J., and G. Rodriguez (1988) The Effect of Parental Education on Marital Fertility in Developing Countries, *Population Studies*, 42, 3, pp. 419-442.

Coale, A.J. and C.Y. Tye (1961) The Significance of Age Patterns of Fertility in High Fertility Populations, *Milbank Memorial Fund Quarterly*, 39, 4, pp.631-646.

Coale, A.J. (1973) The Demographic Transition Reconsidered pp. 53-72 in Vol. 1 *International Population Conference, Liege*, Liege: International Union for the Scientific Study of Population.

Coale, A.J. (1986) The Decline of Fertility in Europe since the Eighteenth

Century as a Chapter in Demographic History, pp. 1-30 in A.J. Coale and S.C. Watkins (eds) *The Decline of Fertility in Europe*, Princeton: Princeton University Press.

Cochrane, S.H. (1979) *Fertility and Education: What Do We Really Know?* Baltimore: John Hopkins University Press.

Cochrane, S.H. (1983) Effects of Education and Urbanization on Fertility, pp. 992-1026. in Bulatao, R.A.*et al.* (eds) *Determinants of Fertility in Developing Countries.* New York: Academic Press.

Coombs, L.C. and T.H. Sun (1978) Family Composition Preference in a Developing Culture: The Case of Taiwan, *Population Studies*, 32, 1, pp. 43-64.

Coombs, L.C. (1979) Prospective Fertility and Underlying Preferences: A Longitudinal Study in Taiwan, *Population Studies*, 33, 3, pp. 447-455.

Datta, S.K. and J.B. Nugent (1984) Are Old-age Security and the Utility of Children in Rural India Really Unimportant? *Population Studies*, 38, 3, pp. 507-509.

Davis, K. (1963) The Theory of Change and Response in Modern Demographic History, *Population Index*, 29, 4, pp. 345-366.

Davis, K. (1970) Population Policy: Will Current Programs Succeed, in Bose, A., Desai, P.B., and Jain, S.P. (compilers) *Studies in Demography*, London: George Allen and Unwin.

Demeny, P. (1987) Re-linking Fertility Behaviour and Economic Security in

Old-age: A Pro-natalist Reform, *Population and Development Review*, 13, 1, pp.128-132.

Demographic Training and Research Unit (1981) Puttalam Survey: *Unpublished Provisional Summary of Findings.* University of Colombo: Demographic Training and Research Unit.

Dixon, R.B. (1970) The Social and Demographic Determinants of Marital Postponement and Celibacy: A Comparative Study, *Unpublished Phd. Thesis.* Berkeley: University of California.

Dixon, R.B. (1975) Women's Rights and Fertility. *Reports on Population and Family Planning,* No.17.

Dixon, R.B. (1977) The Roles of Rural Women: Female Seclusion, Economic Production and Reproductive Choice. pp. 290-321. in R.G.Ridker. (ed) *Population and Development: The Search for Interventions.* Baltimore: John Hopkins University Press.

Dixon, R.B. (1978) Late Marriage and Non-marriage as Demographic Responses: Are They Similar ? *Population Studies*, 32, 3, pp. 449-466.

Dyson, T. and M. Moore. (1983) On Kinship Structure, Female Autonomy and Demographic Behaviour in India, *Population and Development Review*, 9, 1, pp. 35-60.

Easterlin, R.A. (1969) Towards a Socio-economic Theory of Fertility: A Survey of Recent Research on Economic Factors in American Fertility, in S.J. Behrman *et al* (eds) *Fertility and Family Planning : A World Review,* Ann Arbor: University of Michigan Press.

Easterlin, R.A. (1974) The Effect of Modernization on Family Reproductive Behaviour, in *The Population Debate: Dimensions and Perspectives. Papers of the World Population Conference,* Vol.2, Bucharest. New York: United Nations.

Easterlin, R.A. (1976) Factors in the Decline of Farm Fertility in the United States: Some Preliminary Results, *Journal of American History*, 63, pp. 600-615.

Farmer, B.H. (1983) *An Introduction to South Asia.* London: Methuen.

Fawcett, J.T., and M.C. Bornstein (1973) Modernization, Individual Modernity, and Fertility. in J.T. Fawcett (ed) *Psychological Perspectives on Population.* New York: Basic Books.

Fawcett, J.T. and Siew-Ean Khoo (1980) Singapore: Rapid Fertility Transition in a Compact Society, *Population and Development Review*, 6, 4, pp. 549-579.

Fernando, D.F.S. (1970) Fertility Trends in Ceylon 1953-1968 and the National Family Planning Programme. *Monograph* No.17, Colombo: Department of Census and Statistics.

Fernando, D.F.S. (1972) Recent Fertility Decline in Ceylon, *Population Studies*, 26, 3, pp. 445-453.

Fernando, D.F.S. (1974) A Note on Differential Fertility in Sri Lanka, *Demography*, 11, 3, p.441-456.

Fernando, D.F.S. (1975) Changing Nuptiality Patterns in Sri Lanka 1901-1971,

Population Studies, 29, 2, pp. 179-190.

Fernando, D.F.S., (1977) Female Educational Attainment and Fertility, *Journal of Biosocial Science*, 9, pp.339-351.

Fernando, D.F.S. (1979) Nuptiality, Education, Infant Mortality and Fertility in Sri Lanka, *Journal of Biosocial Science*, 11, pp. 133-140.

Fernando, D.F.S. (1980) The Continuing Fertility Decline in Sri Lanka, *Journal of Biosocial Science*, 12, pp. 51-60.

Fernando, D.F.S. (1990) Differential Mortality and Fertility in Sri Lanka by Ethnic Group, *Biology and Society*, 7, 4, pp.215-224.

Findlay, A. and A. Findlay (1987) *Population and Development in the Third World.* London: Methuen.

Fraser, T.M. (1962) *Rusembilan: A Malay Fishing Village in Southern Thailand.* New York: Cornell University Press.

Freedman, R. (1973) Norms for Family Size in Underdeveloped Areas, in M. Micklin. (ed.) *Population, Environment and Social Organization: Current Issues in Human Ecology.* Hinsdale, Illinois: Dryden.

Freedman, R. and L. Coombs (1974) *Cross Cultural Comparisons: Data on Two Factors in Fertility Behaviour.* New York: The Population Council.

Frisch, R.E. (1978a) Nutrition, Fatness and Fertility: The Effect of Food Intake on Reproductive Ability. in W.H. Mosley (ed) *Nutrition and Human Reproduction,* New York: Plenum Press.

Gendell, M. (1967) The Influence of Family Building Activity on Women's Rate of Economic Activity, pp. 285-286 in *Proceedings of the World Population Conference, Belgrade, 1965, Vol. 4: Migration, Urbanization and Economic Development.* New York: United Nations.

Gendell, M., M.N. Maraviglia, and P.C. Krestner (1970) Fertility and Economic Activity of Women in Guatemala City, *Demography*, 7, 3, pp. 273-286.

Germain, A. (1975) The Status and Role of Women as Factors in Fertility Behaviour: A Policy Analysis, *Studies in Family Planning*, 6, 7, pp. 192-200.

Giraure, N. (1975) The Need for a Cultural Programme: Personal Reflections, in J. Brammal, and R.J. May. (eds) *Education in Melanesia.* Canberra: Research School of Pacific Studies, Australian National University; Port Morseley: University of Papua New Guinea.

Goldstein, S. (1972) The Influence of Labour Force Participation and Education on Fertility in Thailand, *Population Studies*, 26, 3, pp. 419-436.

Government of Ceylon, National Planning Council (1959) *The Ten Year Plan.* Colombo: Government Publications Bureau.

Government of Ceylon, Ministry of Planning and Employment (1971) *The Five Year Plan. 1972-76,* Colombo: Department of Government Printing.

Government of Sri Lanka, (1987) *Housing Development an Investment in Mankind: A Collection of Speeches on Housing Development* by R. Premadasa (Prime Minister of Sri Lanka, 1977-89) Colombo: Information Division, Ministry of Local Government Housing and Construction.

Government of Sri Lanka (1993), *Janasaviya Regulations, No.1 of 1992,* Reprinted from the Gazette Extraordinary No. 728/12 of August 19, 1992. Colombo: *Janasaviya* Commissioner's Department.

Grabill, W.H. and L.J. Cho (1965) Methodology for the Measurement of Current Fertility from Population Data on Young Children. *Demography,* 2, pp. 50-73.

Graff, H.J. (1979) Literacy, Education and Fertility, Past and Present: A Critical Review, *Population and Development Review*, 5, 1, pp. 105-140.

Gray, R. (1983) The Impact of Health and Nutrition on Natural Fertility, in Bulatao *et al* (eds) *Determinants of Fertility in Developing Countries.* Vol.1. New York: Academic Press, pp. 139-162.

Gray, R.H. (1974) The Decline of Mortality in Ceylon and Demographic Effects of Malaria Control, *Population Studies*, 28, 2, pp. 205-229.

Gray, R.H. (1975) A Reply to A. Palloni's Comments, *Population Studies*, 29, 3, pp. 499-501.

Greenhalgh, S. (1985) Sexual Stratification: The Other Side of "Growth with Equity" in East Asia, *Population and Development Review*, 11, 2, pp. 265-314.

Gunatilleke, G. (1973) *Rural-Urban Balance and Development- the Experience in Sri Lanka.* Colombo: Marga, 2, No. 1.

Hajnal, J. (1953) Ages at Marriage and Proportions Marrying, *Population Studies*, 7, 2, pp. 111-136.

Hajnal, J. (1965) European Marriage Patterns in Perspective, in D.V. Glass and D.E.C. Eversley (ed) *Population in History: Essays in Historical Demography.* London: Edward Arnold.

Hammel, E.A. (1990) A Theory of Culture for Demography, *Population and Development Review*, 16, 3, pp. 455-485.

Hanna, B. and T. Nadarajah (1976) Some Aspects of Fertility Differentials in Sri Lanka, *Population Problems of Sri Lanka* Demographic Training and Research Unit, University of Sri Lanka, Colombo Campus: The Sri Lanka University Press, pp. 83-98.

Hauser, P.M. (1970) On Non Family Planning Methods of Population Control in Bose, A., Desai, P.B., and Jain, S.P. (compilers) *Studies in Demography.* London: George Allen and Unwin.

Heer, D.M., and E.S. Turner (1965) Areal Differences in Latin American Fertility, *Population Studies*, 18, 3, pp. 279-292.

Heer, D.M. (1972) Economic Development and the Fertility Transition, in D.V. Glass and R. Revelle. (ed) *Population and Social Change.* London: Edward Arnold.

Hodgson, D. (1983) Demography as Social Science and Policy Science, *Population and Development Review*, 9, 1, pp. 1-34.

Hoem, B., and J.M. Hoem (1989) The Impact of Women's Employment on Second and Third Births in Modern Sweden, *Population Studies*, 43, 1, pp. 47-67.

Hyuan, T. (1970) Marital Moratorium and Fertility in China, *Population Studies*, 24, 3, pp. 307-323.

International Bank for Re-construction and Development/ The World Bank, (1988) *Social Indicators of Development.* Baltimore: The John Hopkins University Press.

James, D.G. and I. Sri Chandrasekera (1979) The Impact of Public Food Grain Distribution on Food Consumption and Welfare in Sri Lanka. *Research Report,* 13, Washington, D.C.: International Food Policy Research Institute.

Jayawardena, K. and S. Jayaweera (1985) The Integration of Women in Development Planning: Sri Lanka, pp. 73-171 in N. Heyzer (ed) *Missing Women.* Kuala Lumpur: Asian and Pacific Development Centre.

Jayawardena, K. (1986) *Feminism and Nationalism in the Third World.* London: Zed Books.

Jelliffe, D.B., and E.P.F. Jelliffe (1978) *Human Milk in the Modern World; Psychosocial, Nutritional and Economic Significance.* Oxford: Oxford University Press.

Jones, G.W. and S. Selvaratnam (1972) *Population Growth and Economic Development in Ceylon.* Colombo: Marga Institute.

Joshi, H. (1990) The Cash Opportunity Costs of Childbearing: An Approach to Estimation using British Data, *Population Studies*, 44, 1, pp. 41-60.

Kane, T.T. and S. Sivasubramaniam (1989) Family Planning Communication

Between Spouses in Sri Lanka, *Asian and Pacific Population Forum*, 3, 1-2, pp. 1-10 & 33-34.

Karki, Y.B. (1988) Sex Preference and the Value of Sons and Daughters in Nepal, *Studies in Family Planning*, 19, 3, pp. 169-178.

Karunatilake, H.N.S. (1975) The Impact of Welfare Services in Sri Lanka on the Economy, *Staff Studies*, Central Bank of Ceylon, 5, No. 1.

Kasarda, J.D. (1971) Economic Structure and Fertility: A Comparative Anaysis, *Demography*, 8, pp. 307-317.

Khan, A.R. (1977) Poverty and Inequality in Rural Bangladesh in *Poverty and Landlessness in Rural Asia*, Geneva: International Labour Office.

Knodel, J.E. (1974) *The Decline of Fertility in Germany 1871-1939.* Princeton, N.J.: Princeton University Press.

Knodel, J.E. *et al.* (1984) Fertility Transition in Thailand: A Qualitative Analysis, *Population and Development Review*, 10, 2, pp. 297-328.

Knodel, J. (1987) Starting, Stopping and Spacing During the Early Stages of Fertility Transition: The Experience of German Village Populations in the 18th and 19th Centuries, *Demography* 24, 2, pp. 143-162.

Kupinsky, S. (1971) Non-familial Activity and Socio-economic Differentials in Fertility, *Demography*, 8, pp. 353-368.

Langford, C.M. (1981) Fertility Change in Sri Lanka Since the War: An Analysis of the Experience of Different Districts, *Population Studies*, 35, 2, pp. 285-306.

Langford, C.M. (1982) The Fertility of Tamil Estate Workers in Sri Lanka, *World Fertility Survey Scientific Reports,* No.31, Voorburg: International Statistical Institute.

Leete, R. (1987) The Post-demographic Transition in East and South East Asia: Similarities and Contrasts with Europe, *Population Studies*, 41, 2, pp. 187-206.

Lesthaeghe, R. (1974) The Feasibility of Controlling Population Growth through Nuptiality and Nuptiality Policies, *International Population Conference, Liege,* 1973, Vol.3, pp. 319-341, Liege: International Union for the Scientific Study of Population.

Lesthaeghe, R. and J. Surkyn (1988) Cultural Dynamics and Economic Theories of Fertility Change, *Population and Development Review,* 14, 1, pp.1-45.

Livi-Bacci, M. (1971) *A Century of Portuguese Fertility.* Princeton N.J.,: Princeton University Press.

Little, R.J. and S. Perera (1981) Illustrative Analysis: Socio-economic Differentials in Cumulative Fertility in Sri Lanka- A Marriage Cohort Approach, *World Fertility Survey Scientific Reports,* No. 12, The Hague: International Statistical Institute.

Majumdar, M. (1973) Some Aspects of Fertility and Family Planning in the Urban Areas of India.*International Population Conference , Liege*, Vol. 2, pp 1108-1112, Liege: International Union for the Scientific Study of Population.

Mandelbaum, D.G. (1970) *Society in India.* Berkeley: University of California Press.

Masemann, V. (1974) The Hidden Curriculum of a West African Girls' Boarding School, *Canadian Journal of African Studies* 8, 3, pp. 479-494.

Mason, A. and N.G. Bennett (1977) Sex Selection with Biased Technologies and its Effects on the Population Sex Ratio, *Demography* 14, 3, pp. 285-296.

Mason, K.O. (1986) The Status of Women: Conceptual and Methodological Issues in Demographic Studies, *Sociological Forum* 1, 2, pp. 284-300.

Mason, K.O. and A. Malhotra Taj (1987) Differences between Women's and Men's Reproductive Goals in Developing Countries, *Population and Development Review* 13, 4, December, pp. 611-638.

Mason, K.O. (1987) The Impact of Women's Social Position on Fertility in Developing Countries, *Sociological Forum*, 2, 4, pp. 718-745.

Mason, K.O. (1988) The Impact of Women's Position on Demographic Change During the Course of Development: What do We Know? *Research Reports* No. 88-123, Population Studies Centre, University of Michigan.

Matras, J. (1965) The Social Strategy of Family Formation: Some Variations in Time and Space, *Demography*, 2, pp. 349-362.

Mauldin, W.P. and B. Berelson (1978) Conditions of Fertility Decline in Developing Countries, 1965-75, *Studies in Family Planning* 9, 5, pp. 89-147.

May, D.A. and D.M. Heer (1968) Son Survivorship Motivation and Family Size

in India : A Computer Simulation, *Population Studies* 22, 2, pp.199-210.

McLoughlin, J. (1991) *The Demographic Revolution.* London: Faber and Faber.

McMichael, A.J. (1993) *Planetary Overload: Global Environmental Change and the Health of the Human Species,* Cambridge: Cambridge University Press.

McNamara, R.S. (1977) *Address to the Masachusetts Institute of Technology,* Cambridge: Massachusetts, pp. 57.

McNamara, R.S. (1977) *Address to the Board of Governors.* Washington, D.C. Worlad Bank p.39.

McNamara, R.S. (1980) *Address to the Board of Governors.* Washington, D.C. World Bank, p. 47.

Mead, M. (1956) *New Lives for Old: Cultural Transformation- Manus 1928-1953.* New York: William Morrow.

Meegama, S.A. (1967) Malaria Eradication and Its Effects on Mortality Levels, *Population Studies*, 21, 3, pp.207-237.

Meegama, S.A. (1969) The Decline in Maternal and Infant Mortality and its Relation to Malaria Eradication, *Population Studies*, 23, 2, pp. 289-302.

Michael, R.T. (1973) Education and the Derived Demand for Children, *Journal of Political Economy*, 81, 2, S128-164.

Miro, C.A. and W. Mertens (1968) Influences Affecting Urban and Rural Latin

America, *Milbank Memorial Fund Quarterly*, 46, (3, part 2) pp. 89-117.

Morris, M.D. (1979) *Measuring the Condition of the World's Poor: The Physical Quality of Life Index,* New York.

Mosley, W.H. (1979) The Effects of Nutrition on Natural Fertility in J. Menken and H. Leridan (eds) *Natural Fertility*, Liege: Ordina Editions.

Nadarajah, T. (1976) Trends and Differentials in Mortality, United Nations, ESCAP, *Country Monograph Series,* No. 4, Chapter 7, pp.123-153.

Newman, P. (1965) Malaria Eradication and Population Growth with Special Reference to Ceylon and British Guyana, Ann Arbor, Bureau of Public Health Economics, University of Michigan, *Research Series,* No. 10.

Notestein, F.W. (1945) Population: The Long View, pp. 36-57 in T.W. Schultz (ed) *Food for the World*, Chicago: University of Chicago Press.

Ogawa, N. and J.R. Rele (1981) Age at Marriage and Cumulative Fertility in Sri Lanka, in ESCAP, Multivariate Analysis of World Fertility Survey Data for Selected ESCAP Countries, *Asian Population Studies Series,* No.49, Bangkok, ESCAP pp. 227-268.

Oppong, C. (1983) Women's Roles Opportunity Costs and Fertility, pp. 547-589, in R .A. Bulatao and R.D. Lee with Hollerbach, E. and J. Bongaarts.(eds) *Determinants of Fertility in Developing Countries, Vol. 1 Supply and Demand for Children.* New York: Academic Press.

Palloni, A. (1975) Comments on R.H. Gray's, The Decline of Mortality in Ceylon and the Demographic Effects of Malaria Control, *Population*

Studies, 29, 3, pp. 497-499.

Palmore, J. A., and M. Ariffin (1969) Marriage Patterns and Cumulative Fertility in West Malaysia, *Demography*, 6, 4, pp. 383-402.

Pebley, A.R. *et al* (1982) Unmet Need for Contraception in Bangladesh in *World Fertility Surveys of Developing Countries.* Hawaii: East-West Population Institute, East-West Center.

Perinbanayagam, R.S. (1982) *The Karmic Theater: Self, Society and Astrology in Jaffna.* Amherst: The University of Massachusetts Press.

Pollak, R.A. and S.C. Watkins (1993) Cultural and Economic Approaches to Fertility: Proper Marriage or *Mesalliance*? *Population and Development Review*, 19, 3, pp. 467-496.

Prakasam, C.P. (1986) *Determinants of Fertility Levels and Trends in Sri Lanka.* Delhi: Bookwell Publications.

Premadasa, R. (1987) Housing Development an Investment in Mankind, *A Collection of Speeches on Housing Development*, Colombo: Information Division, Ministry of Local Government Housing and Construction.

Preston, S.H. (1986) Changing Values and Falling Birth Rates in (eds) Davis, K. *et al* Below Replacement Fertility in Industrial Societies: Causes, Consequences, Policies, *Population and Development Review* 12 (supp.): pp. 176-195.

Puvanarajan, P. (1976) Patterns and Processes of Urbanization in Sri Lanka, *Population Problems of Sri Lanka.* Demographic Training and Research

Unit, University of Sri Lanka, Colombo Campus: The Sri Lanka University Press, pp. 99-107.

Rao, S.L.N. (1976) Mortality and Morbidity in Sri Lanka, *Population Problems of Sri Lanka.* Demographic Training and Research Unit, University of Sri Lanka, Colombo Campus: The Sri Lanka University Press, pp. 27-47.

Ratnayake, K. *et al* (1984) *Fertility Estimates for Sri Lanka, Derived from the 1981 Census.* Colombo: Aitken Spence & Co. Ltd.

Read, M. (1970) Education in Africa: Its Pattern and Role in Social Change in J. Middleton, (ed) From Child to Adult, *Studies in Anthropology of Education*, American Museum Sourcebooks in Anthropology, New York: The Natural History Press.

Repetto, R.G. (1972) Son Preference and Fertility Behaviour in Developing Countries, *Studies in Family Planning*, 3, 4, pp. 70-76.

Retherford, R.D. and L.J. Cho (1978) Age-Parity Birth Rates and Birth Probabilities from Census and Survey Data on Own-Children, *Population Studies*, 32, 2, pp.567-581.

Retherford, R.D. (1985) A Theory of Marital Fertility Transition, *Population Studies*, 39, 2, pp.249-268.

Retherford, R.D. and J.R. Rele (1989) A Decomposition of Recent Fertility Changes in South Asia: Data and Perspectives, *Population and Development Review*, 15, 4, pp.739-747.

Retherford, R.D. *et al* (1989) Strength of Fertility Motivation: Its Effects on Contraceptive use in Rural Sri Lanka, *Asia-Pacific Population Journal*, 4, 4, pp.21-44.

Richards, P. and W. Gooneratne (1980) *Basic Needs, Poverty and Government Policies in Sri Lanka.* Geneva: International Labour Organization.

Ridley, J.C. (1968) Demographic Change and the Roles and Status of Women, *Annals of the American Academy of Political and Social Science*, 375, pp.15-25.

Robinson, W.C. (1986) High Fertility as Risk Insurance, *Population Studies*, 40, 2, pp. 289-298.

Robinson, W.C. (1987) The Time Cost of Children and Other Household Production, *Population Studies*, 41, 2, pp.313-323.

Ryan, B. (1952), Institutional Factors in Sinhalese Fertility, *Milbank Memorial Fund Quarterly*, 30, 4, pp.359-381.

Ryder, N. (1967) The Character of Modern Fertility, *Annals of the American Academy of Political Science and Social Science,* Vol. 369, pp. 26-36.

Sadik, N. (1990) India: Census will Focus on Women, *Population Headliners*, No. 187, Bangkok: Population Division, Economic and Social Commission for Asia and the Pacific.

Safilios Rothchild, C. (1980) A Class and Sex Stratification Theoretical Model and its Relevance for Fertility Trends in the Developing World, pp. 189-202 in C. Hohn and R. Machense, (eds) *Determinants of Fertility*

Trends: Theories Re-examined, Liege, Belgium: Ordina Editions.

Safilios Rothchild, C. (1985) The Status of Women on Fertility in the Third World in the 1970-80 Decade, *Working Papers, No. 118*, New York: Population Council, Center for Policy Study.

Samarakkody, A. (1976) Women's Status and Fertility Rates in Sri Lanka, Doctoral Dissertation, State University of New York.

Sanderatne, N. (1975) Socio-economic Variables in Sri Lanka's Demographic Transition: An Analysis of Recent Trends, *Staff Studies,* Central Bank of Ceylon, 5, Part 1, pp.157-190.

Sarkar, N.K. (1957) *The Demography of Ceylon.* Colombo: Ceylon Government Press.

Selvaratnam, S. (1970) The Demographic Revolution in Ceylon, Presidential Address, Social Sciences Section, Ceylon Association for the Advancement of Science, *Proceedings of the Twenty Sixth Annual Sessions,* Colombo: University Press.

Sharma, O.P. and R.D. Retherford (1990) Effects of Female Literacy on Fertility in India, *Occasional Paper,* No.1 Delhi: Office of the Registrar General and Census Commissioner of India.

Sheps, M.C. (1963) Effects on Family Size and Sex Ratio of Preferences Regarding the Sex of Children, *Population Studies*, 17, 1, pp. 66-72.

Siriwardena, B.S. (1963) The Life of Ceylon Women, pp. 149-172, in B.E. Ward, (ed) *Women in the New Asia* Netherland: UNESCO.

Sivard, R.L. (1985) *Women ..... A World Survey.* Washington, DC: World Priorities.

Sklar, J. (1971) Marriage Regulation and the California Birth Rate, pp. 165-197 in K. Davis and F.G. Styles, (eds) *California's Twenty Million.* Berkeley: University of California.

Sklar, J. (1974) The Role of Marriage Behaviour in the Demographic Transition: The Case of Eastern Europe around 1900, *Population Studies,* 28, 2, pp. 231-247.

Smith, D. (1980) Age at First Marriage, *World Fertility Survey Comparative Studies,* No.7, Voorburg: International Statistical Institute.

Smith, D.P. (1982) Sex Selection, pp. 605-607, in J. A. Ross (ed) *International Encyclopedia of Population.* London: The Free Press.

Smith, P.C. (1976) Asian Nuptiality in Transition, Paper Presented at the *Seventh Summer Seminar on Population,* East-West Population Institute, Honolulu, Hawaii.

Smith, P.C. (1983) The Impact of Age at Marriage and Proportions Marrying on Fertility, pp. 473-531, in R. Bulatao *et al* (eds) *Determinants of Fertility in Developing Countries,* Vol.2, New York: Academic Press.

Speare, A. (Jnr.) *et al* (1973) Urbanization, Non-Familial Work, Education and Fertility in Taiwan, *Population Studies,* 27, 2, pp. 323-334.

Sri Lanka, Department of Census and Statistics (1950) Census of Ceylon, 1946, *General Report,* Vol.1, Part 1, Colombo: Department of Census and

Statistics.

Sri Lanka, Department of Census and Statistics (1957) Census of Ceylon, 1953, Vol. 1 and 11. Colombo: Department of Census and Statistics.

Sri Lanka, Department of Census and Statistics (1974) Census of Population, Ceylon, 1971, *Preliminary Report.* Colombo: Department of Census and Statistics.

Sri Lanka, Central Bank of Ceylon (1974) *Survey of Sri Lanka's Consumer Finances, 1973, Part 1,* Colombo: Department of Economic Research, Central Bank of Ceylon.

Sri Lanka, Ministry of Information and Broadcasting (1975) *Women of Sri Lanka.* Colombo: Department of Government Printing.

Sri Lanka, Department of Census and Statistics (1978) Census of Population, Ceylon, 1971, *General Report.* Colombo: Department of Census and Statistics.

Sri Lanka, Department of Census and Satistics (1978) *World Fertility Survey, Sri Lanka, 1975, First Report.* Colombo: Ministry of Plan Implementation.

Sri Lanka, Department of Census and Statistics (1983) *Sri Lanka Contraceptive Prevalence Survey Report, 1982.* Colombo: Department of Census and Statistics.

Sri Lanka, University Grants Commission (1983) *Statistical Handbook, 1983, Statistics on Higher Education in Sri Lanka.* Colombo: Division of

Planning and Research, University Grants Commission.

Sri Lanka, Janatha Estate Development Board (1984) *Report of the Orientation Seminar for Estate Superintendents on formulation of Nutrition Intervention Programmes,* Colombo.

Sri Lanka, Department of Census and Statistics (1985) Census of Population and Housing, 1981, *Population: All Island Tables.* Vol. 2, Part 1. Colombo: Department of Census and Statistics.

Sri Lanka, Central Bank of Ceylon (1985) *Report on Consumer Finances and Socio-Economic Survey, 1981/82, Sri Lanka, Part 1,* Statistics Department, Central Bank of Ceylon.

Sri Lanka, Department of Census and Statistics (1986) Census of Population, 1963, *All Island Tables.* Colombo: Department of Census and Statistics,

Sri Lanka, Central Bank of Sri Lanka (1986) *Review of the Economy.* Colombo: Central Bank of Sri Lanka.

Sri Lanka, Central Bank of Sri Lanka (1986) *Economic and Social Statistics of Sri Lanka, Vol. 9,* Colombo: Statistics Department, Central Bank of Sri Lanka.

Sri Lanka, Department of Census and Statistics (1986) *Census of Population and Housing, 1981, General Report* Vol. 3, Colombo: Department of Census and Statistics.

Sri Lanka, University Grants Commission (1986) *Statistical Handbook, 1986,*

Statistics on Higher Education in Sri Lanka. Colombo: Division of Planning and Research, University Grants Commission.

Sri Lanka, Central Bank of Sri Lanka (1987) *Economic and Social Statistics of Sri Lanka, Vol. 10,* Colombo: Statistics Department, Central Bank of Sri Lanka.

Sri Lanka, Department of Census and Statistics (1987) *Demographic Sample Survey of Female Employees in Public Sector, 1987, The Report,* Colombo: Department of Census and Statistics.

Sri Lanka, Department of Census and Statistics - UNICEF (1987) *Vital Statistics 1967-1980, Sri Lanka,* Vol 1, Colombo: Department of Census and Statistics.

Sri Lanka, Department of Census and Statistics (1987) *Sri Lanka Contraceptive Survey, 1985.* Colombo : Department of Census and Statistics.

Sri Lanka, (1988) Central Bank of Sri Lanka *Review of the Economy.* Colombo: Central Bank of Sri Lanka.

Sri Lanka, Department of Census and Statistics (1988) *Sri Lanka Demographic and Health Survey, 1987.* Colombo: Department of Census and statistics.

Sri Lanka, Ministry of Health and Women Affairs (1990) *Population Statistics of Sri Lanka,* Colombo: Population Information Centre.

Sri Lanka, Central Bank of Sri Lanka (1991) *Economic and Social Statistics of Sri Lanka, 1990.* Colombo: Statistics Department, Central Bank of

Sri Lanka.

Sri Lanka State Plantations Corporation (1991) *Statistical Report and Analysis of Social Development, 1980-1990.* Colombo: Social Development Division, State Plantations Corporation.

Sri Lanka, University Grants Commission (1991) *Statistical Handbook, 1989, Statistics on Higher Education in Sri Lanka.* Colombo: Division of Planning and Research, University Grants Commission.

Sri Lanka, Central Bank of Sri Lanka (1992) *Annual Report.* Colombo: Central Bank of Sri Lanka.

Sri Lanka, Central Bank of Sri Lanka (1992) *Economic and Social Statistics of Sri Lanka, 1991.* Colombo: Statistics Department, Central Bank of Sri Lanka.

Sri Lanka, Ministry of Education and Higher Education (1992) *Educational Statistics of Sri Lanka.* Colombo: Ministry of Higher Education.

Sri Lanka, University Grants Commission (1992) *Statistical Handbook, 1990, Statistics on Higher Education in Sri Lanka.* Colombo: Division of Planning and Research, University Grants Commission.

Standing, G. (1980) Analysing Women's Labour Force Activity with the WFS: Insights from Sri Lanka. World Employment Programme Research, *Working Paper,* Geneva: International Labour Organization.

Standing, G. (1993) Women's Work Activity and Fertility, pp. 517-546, in R. Bulatao *et al* (eds) *Determinants of Fertility in Developing Countries,*

New York: Academic Press.

Stein, Z., and M. Susser (1978) Famine and Fertility pp.123-145 in W.H. Mosley, (ed), *Nutrition and Human Reproduction*, New York: Plenum Press.

Stokes, C.S., Schutjer, W.A. and R.A. Bulatao (1986) Is the Relationship Between Landholding and Fertility Spurious ? A Response to Cain, *Population Studies*, 40, 2, pp. 305-311.

Stycos, J.M. and R.H. Weller (1967) Female Working Role and Fertility, *Demography*, 4, 1, pp.210-217.

Sundaram, J.K. and T.P. Leng (1985) Not the Better Half: Malaysian Women and Development Planning, pp. 1-72 in N. Heyzer, (ed) *Missing Women: Development Planning in Asia and the Pacific.* Kuala Lumpur: Asian and Pacific Development Centre.

Sutton, F.X. (1965) Education and the Making of Modern Nations, pp. 51-74 in J.S.Coleman, (ed) *Education and Political Development.* Princeton N.J.: Princeton University Press.

Taeuber, I.B. (1949) Ceylon as a Demographic Laboratory: Preface to Analysis, *Population Index,* 15, pp. 293-304.

Tarzie Vitachi (1977) Island Insights: Key to a New Approach? *People,* 4, 2

Tien, H.Y. (1970) Marital Moratorium and Fertility in China, *Population Studies,* 24, 3, pp. 307-323.

Tsui, A.O. *et al* (1991) Young Women's Work and Family Formation in Sri

Lanka, *Asian and Pacific Population Forum,* 5, 4, pp.93-100 and 109-116.

United Nations (1958) *Multilingual Demographic Dictionary.* Population Studies, No. 29, New York: Department of Economic and Social Affairs, United Nations.

United Nations, Economic and Social Commission for Asia and the Pacific (1976), *Population of Sri Lanka*, Country Monograph Series No. 4.

United Nations, Economic and Social Commission for Asia and the Pacific, (1979) Demographic Aspects of Labour Force Participation, *Population Research Leads.* No. 4, Bangkok: Division of Population and Social Affairs, ESCAP.

United Nations, Economic and Social Commission for Asia and the Pacific (1980) *Migration, Urbanization and Development in Sri Lanka.* New York: United Nations.

United Nations, Economic and Social Commission for Asia and the Pacific, (1986) *Levels and Trends of Fertility in Sri Lanka: A District Level Analysis*, Asian Population Studies Series, No. 62F, New York: United Nations.

United Nations, Economic and Social Commission for Asia and the Pacific, (1989) *Population Headliners*, Nos. 168 and 169, Bangkok: Population Division, ESCAP.

United Nations, Economic and Social Commission for Asia and the Pacific, (1990) *Population Headliners*, No. 187, Bangkok: Population Division,

ESCAP.

United Nations Organization, CICRED (1974) *The Population of Sri Lanka.* Colombo: Department of Census and Statistics.

U.S. Agency for International Development, Office of Nutrition (1976) *Sri Lanka Nutritional Status Survey.* Washington,D.C.: U.S. Department of Agriculture.

Vlassoff, M. (1979) Labour Demand and Economic Utility of Children: A Case Study in Rural India, *Population Studies,* 33, 3, pp. 415-428.

Vlasoff, M. (1984) A Rejoinder to S.K. Datta and J.B. Nugent, *Population Studies,* 38, 3, pp. 510-512.

Vlassoff, C. (1990) The Value of Sons in an Indian village: How Widows See It, *Population Studies,* 44, 1, pp.5-20.

Vlassoff, C. (1991) Rejoinder to Cain: Widows, Sons and Old-age Security in Rural Maharashtra: A Comment on Vlassoff, *Population Studies* 45, 3, pp. 529-535.

Van de Walle, F. (1976) Education and Fertility Transition in Switzerland, Paper Presented at the *Annual Meeting* of the Population Association of America, Montreal.

Van de Walle, F. (1980) Education and the Demographic Transition in Switzerland (Notes and Commentary), *Population and Development Review,* 6, 3, pp. 463-472.

Van de Walle, E. (1992) Fertility Transition, Conscious Choice and Numeracy,

Demography, 29, 4, pp. 487-502.

Weller, R.H. (1977) Wife's Employment and Cumulative Family Size in the United States, 1970 and 1960, *Demography,* 14, 1, pp.43-66.

Westoff, C. and N. Ryder, (1977) *The Contraceptive Revolution.* Princeton, N.J.: Princeton University Press.

Wilson, P. (1979) Fertility and Female Labour Force Participation in Sri Lanka, *Vidyodaya Journal of Arts, Science and Letters*, Vol. 7, nos 1 & 2, pp. 52-67.

Wiser, W.H., and C.V. Wiser (1969) *Behind Mud Walls, 1930-1960.* Berkeley: University of California Press.

Wolf, D. (1980) Female Employment, Fertility and Survival Strategies in Sri Lanka, *Cornell Agricultural Economics Staff Paper,* Ithaca New York: Cornell University, Department of Agricultural Economics.

World Bank (1981) *World Development Report*, New York.

World Bank (1993) *World Development Report*, Oxford University Press.

World Fertility Survey (1978) The Sri Lanka Fertility Survey, 1976: *A Summary of Findings.* No.7, Netherlands: International Statistical Institute.

Wright, N.H. (1968) Recent Fertility Changes in Ceylon and Prospect for the National Family Planning Program, *Demography,* 5, 2, pp. 745-756.

Wright, N.H. (1970) The Relationship of Demographic Factors and Marital Fertility to the Recent Fertility Decline: Ceylon, 1963-1968, *Studies in*

Family Planning, No.59, pp. 17-20.

Yaukey, D. (1973) *Marriage Reduction and Fertility.* Lexington, Massachusetts: Lexington Books.