The Quantitative Analysis of Poverty in Fiji

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Preface (Government Statistician, FIBoS)

This monograph, *The Quantitative Analysis of Poverty in Fiji*, is another important output from the 2002-03 Household Income and Expenditure Survey implemented by the Fiji Islands Bureau of Statistics, while also drawing on some of the results from the Bureau's 2004-05 Employment and Unemployment Survey, both previously analysed and reported on by Professor Narsey.

Household Income and Expenditure Surveys are extremely useful for the analysis of poverty as they extract data on household incomes and expenditures throughout the entire economy. The Bureau's normal collection of incomes data is usually focused on the wages and salary earners who are employed by establishments on the Business Register. This Register unfortunately does not cover the rest of the Labour Force which is twice as large, nor those who are classified as "economically inactive" but who do work (such as household workers).

This analysis of poverty is especially important for Fiji, as the last HIES had been conducted in 1990-91 but the results were not reliable for a number of reasons. In any case, the last poverty analysis was done in 1997 using the somewhat flawed 1991 HIES data. The 2002-03 survey has been conducted with excellent participation by the general public and the Bureau believes that the survey results are quite reliable.

Professor Narsey's analysis of poverty brings together his previous analysis of the 2002-03 HIES data, partly funded by the Secretariat of the Pacific Community to which I am grateful. This study also draws on Professor Narsey's analysis of the 2004-05 Employment and Unemployment Survey data (funded by FIBoS) as well as work done by him on the operations of Fiji's Wages Council (funded by ECREA).

The provision of solid data on poverty is an extremely important part of the nation's attempt to discuss our development problems in an objective manner, guided by facts rather than prejudices. The Bureau is therefore pleased that Professor Wadan Narsey is assisting the Bureau to contribute constructively to the national dialogue on poverty.

Timoci Bainimarama
Government Statistician

Acknowledgements

I am grateful to the various organisations and individuals who have contributed to making this study possible.

First, this study owes a debt to the Secretariat of the Pacific Community which partly funded the initial studies of the raw data generated by the Households Income and Expenditure Survey of 2002-03.[1] The regional bureaus of statistics have also been victims of the "brain drain" that has plagued all the Pacific Island states. The statistics offices, already thin at the top, are expected to provide the full range of reports and statistics which developed country statistics offices, with much larger establishments, usually do. The assistance that SPC gives to Pacific Island bureaus of statistics on statistical surveys and data analysis is therefore extremely beneficial for their functioning.

Also incorporated in this study are some of the results of the 2004-05 Employment and Unemployment Survey, which I analysed for the FIBoS as well as further work I did for the Bureau in the publication of the Report on the 2002-03 HIES.[2] I am therefore grateful to the Fiji Islands Bureau of Statistics staff, who facilitated the two surveys: Mr Timoci Bainimarama (Government Statistician), Mr Epeli Waqavonovono (Chief Statistician), Mr Toga Raikoti (Principal Statistician) and Mr Serevi Baledrokadroka (Statistician).

This study also includes some of the results of a study funded by ECREA, on the operations of the Wages Councils of Fiji, in establishing minimum wages for the tens of thousands of workers who are not protected by unions or collective agreements with employers.[3]

The staff of the Fiji Food and Nutrition Centre, Ms Pushpa Wati Khan (dietician) and Ms Penina Vatucawaqa (nutritionist), very kindly assisted in the construction of the revised 2002 Food Poverty Line.

I am grateful to Dr Azmat Gani (Associate Professor, School of Economics) for reading a draft and giving many useful suggestions for improvements.

Finally, I am grateful to the Dean of Faculty of Business and Economics (Professor Biman Prasad) and the Head of the School of Economics (Associate Professor Mahendra Reddy) for funding the publication of this monograph and organising the launch, together with the Fiji Islands Bureau of Statistics

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[1] Two outputs for the SPC were The results of the 2002-03 Household Income and Expenditure Survey: a draft report; and A Revised Food Poverty Line for Fiji. 2006.

[2] *Report on the 2004-05 Employment and Unemployment Survey*. Fiji Islands Bureau of Statistics. 2007. and *Report on the 2002-03 Household Income and Expenditure Survey*. Fiji Islands Bureau of Statistics, 2006.

[3] This work was published as *Just Wages for Fiji: lifting workers out of poverty.* ECREA and Vanuavou Publications, 2006.

Acronyms and Glossary

ADB	Asian Development Bank
AE	Adult Equivalent (children less than 15 years old = half an adult)
BNPL	Basic Needs Poverty Line: the monetary value of the minimum cost of living
BNPL pAE	Basic Needs Poverty Line per Adult Equivalent
BNPL p4AE	BNPL per Household of 4 Adult Equivalents (e.g. 3 adults and 2 children)
CPI	Consumer Prices Index (usually referring to that for Fiji)
EA	Enumeration Area
ECREA	Ecumenical Centre for Research, Education and Advocacy
EUS	Employment and Unemployment Survey
FIBoS	Fiji Islands Bureau of Statistics
FPL	Food Poverty Line
GDP	Gross Domestic Product
Gini	The Gini Coefficient which is commonly used as a measure of inequality.
Headcount Ratio	The percentage of the population who are below the BNPL.
hh	Household
IMF	International Monetary Fund
Incidence of Poverty:	The percentage of the population who are below the BNPL.
HIES	Household Income and Expenditure Survey
LBG	Lower Bound Gini Coefficient
L7D	Last 7 Days (as income earned over last 7 days)
NFPL	Non-Food Poverty Line
NGO	Non-Government Organisation
NSA	Non-State Actors
pa	per annum
pc	per capita
pAE	per Adult Equivalent
per 4AE	per household of 4 Adult Equivalents
Perc.	Percent
Perc. GG	Percentage Gender Gap calculated as (F-M)/M, where F and M are values for Females and Males respectively
pm	per month
pw	per week
P12M	Previous 12 Months (as income earned over previous 12 months)
Poverty Gap	The aggregate value of the resources required to lift each and every “poor” household up to the BNPL.
Rur Fij	Rural Fijians
Rur Ind	Rural Indo-Fijians
SPC	Secretariat of the Pacific Community
UN	United Nations
UNDP	United Nations Development Programme
Urb Fij	Urban Fijians
Urb Ind	Urban Indo-Fijians
USP	The University of the South Pacific
WB	World Bank
WTO	World Trade Organisation

Executive Summary and Recommendations

1. While poverty may be defined in a large number of multidimensional ways, this study focuses on the quantitative analysis of the incidence of poverty and the poverty gaps in Fiji, using income deprivation as the primary indicator.

2. The methodology used is the "Cost of Basic Needs" approach, where Basic Needs are broken down into the Food Poverty Line (FPL) and the Non-Food Poverty Line (NFPL), separately calculated for Rural and Urban Fijians and Indo-Fijians.

3. The Food Poverty Lines of the four main sub-groups (Rural and Urban Fijians and Rural and Urban Indo-Fijians) were costed after separate food baskets were devised, based on the consumption patterns of the middle quintile results of the 2002-03 HIES, to ensure the standard household is able to satisfy its minimum nutritional requirements, including the minimum of 2100 calories per Adult per day. Despite significant differences in diets between the sub-groups, the values of the revised 2002-03 FPLs are roughly the same, at around $16 per Adult Equivalent per week.

4. The Non-Food Poverty Line values based on the 2002-03 consumption patterns of the subgroups in Decile 3 and adjusted to reflect the costs of household size 4 AE, range from $15 pAE pw to $22 pAE pw. The values for the NFPLs are higher in general for Urban households (compared to Rural households) and for Indo-Fijian households (compared to Fijian households).

5. It is the differences in the values for the Non-Food Poverty Lines which explain the differences in values for the eventual Basic Needs Poverty Line. The Urban:rural differences are easily explained by market forces such as more expensive housing in urban areas. The ethnic differences within urban areas may be partly explained by institutional forces beyond the families' control, such as ethnically differential access to state-subsidised housing or education. But part of the difference may also be explained by the Indo-Fijian cultural preference for better quality housing or transport.

6. The core of the poverty analysis as in other multi-ethnic or multi-cultural societies has to be the differentiated Food Poverty Lines, Non-Food Poverty Lines and Basic Needs Poverty Lines. However, the greater is the importance of cultural preferences in determining the differences in values for the Basic Needs Poverty Line, the lesser is the validity for the argument to use ethnically differentiated values for the Basic Needs Poverty Line, and the greater the validity of using common values for the Basic Needs Poverty Lines.

7. Some of the ethnic differences in non-food costs are partly dictated by institutional forces, arising out of the ethnic politicisation of the provision of Fiji's public policies, employment in the public service, and the provision of public services. If at some point in time when institutional ethnic discrimination is eliminated, then poverty analysis can focus more on rural:urban divides, with ethnic differentiation only focusing on the Food Poverty Lines.

8. As the impact of cultural factors cannot be differentiated from that of the institutional factors, this study argues that it is critical that estimates of the incidence of poverty and Poverty Gaps be calculated using both common values and ethnically differentiated values for the Basic Needs Poverty Lines. Although some readers may find the parallel statistics confusing and/or irritating, it would be scientifically wrong to claim that either set of statistics is correct: the "true picture" of poverty incidence and Poverty Gaps lies in between these two sets of values.

9. The resultant final values for the ethnically differentiated Basic Needs Poverty Lines for 2002-03 range between $31 to $37 per Adult Equivalent per week, or between $125 and $150 per household of 4 Adult Equivalents per week.

10. The income of the household is standardised by converting into Income per Adult Equivalent, with the household size defined by the United Nations (UN) definition of Adult Equivalent. This is then compared with the values for the BNPL to determine who are poor and who are not. The short-fall with the BNPL also defines the poverty gap for the individual household.

11. Using differentiated values for the BNPL, the estimates of the incidence of poverty in 2002-03 were as follows:

All Fiji	35 percent
Rural	40 percent
Urban	29 percent
Fijian	34 percent
Indo-Fijian	37 percent
Others	24 percent

12. The poorest ethnic sub-group were Rural Indo-Fijians of whom 44 percent were below the BNPL. By Divisions, the most in need was the Northern division with 53 percent of the population being in poverty, and a more horrendous 60 percent of Rural Indo-Fijians in the Northern population.

13. Using differentiated values for the BNPL, the ethnic share of the Poverty Gaps were 49 percent for Fijians and 47 percent for Indo-Fijians.

14. The data indicates that while there are ethnic differences in poverty incidence, the more important are the rural:urban gaps: some 69 percent of the poor were in the rural areas (with 61 percent of the Poverty Gap), and only 31 percent in urban areas (with 39 percent of the Poverty Gap).

15. Using common values for the BNPL, on a source of income basis, the poorest groups were those dependent on Home Consumption (subsistence income) with 77 percent being classified as poor, followed closely by people in households dependent on Casual Wages (58 percent poor).

16. Ranked by Income pAE pw, the two major ethnic groups have very similar income distributions and average incomes at all decile levels, except the top decile. By Average Houehold Incomes, Fijian households have a slight advantage at all decile levels except the top.

17. While the estimates of the incidence of poverty and poverty gaps indicate few major differences between the two major ethnic groups, the broad brush analysis of the conditions of the poorest 30 percent of the population indicate that at every decile level, indigenous Fijians appear to be materially far more deprived than Indo-Fijians in house types, transport assets, education and medical expenditures, televisions/videos, electricity, washing machines, computers, and access to water and sewerage.

18. While the 1997 Fiji Poverty Report referred to the national incidence of poverty (Headcount Ratio) in 1991 as the oft-quoted 25 percent, this was not the correct figure. The correct estimate was possibly 32 percent of households if estimates by Ahlburg (the original consultant economist) adjusting for household size were correct, and hence possibly more than 36 percent of the population.

19. There is very little consistent data which can facilitate a sound analysis of the changes in the incidence of poverty between 1977 and 2002-03. However, using the 1977 BNPL adjusted to 2002 values by using CPI changes, the proportion of households below the poverty line showed little change between 1977 and 2002 (about 15 percent of households), but may have been somewhat higher in 1991- possibly 22 percent of households.

20. Income distribution does not seem to have changed much between 1977 and 2002. Comparing the distribution of deciles of persons in households ranked by Income per capita, the Bottom 3 deciles increased their share of total reported income by 11 percent between 1977 and 2002; the middle 4 deciles lost ground between 1977 and 1991, but made up the lost ground between 1991 and 2002 (with therefore no net change between 1977 and 2002); and the top 3 deciles gained by 1 percent between 1977 and 1991 but lost ground by -5 percent) between 1991 and 2002: with a net change between 1977 and 2002 of -2 percent. Overall, the Gini coefficient remained virtually the same between 1977 and 1991 (at around 0.43) but improved slightly to 0.41 in 2002.

21. The results of the 2004-05 Employment and Unemployment Survey indicate that Female workers had a much higher incidence of poverty of 40 percent compared to 29 percent for Males (with the BNPL per income earner defined by an Income per person per week of $60).

22. If unpaid Household Workers are also included as workers, then the Female incidence of poverty becomes a much higher 75 percent, compared to 33 percent for Males.

23. Rough estimates of the incidence of poverty in 2004-05 using the 2004-05 EUS data suggests that the incidence of poverty may have declined by about 21 percent between 2002 and 2004 for all groups, except for Urban Indo-Fijians for whom poverty may have declined by only 9 percent.

Recommendations:

1. *Stakeholders in Fiji's poverty, using the findings of this study as a starting point for discussion, discuss the findings of this study and come to some consensus on the composition and values of the Food Poverty Line Baskets, the Non-Food Poverty Line values, and the Basic Needs Poverty Line values,.*

2. *Stakeholders disseminate the findings widely, so as to de-politicise policies for the alleviation of poverty.*

3. *Poverty alleviation strategies be devised on the basis of need to ensure that resources flow fairly to ethnic groups,, by division, and by rural:urban disaggregation. Of absolute urgency is the need for a genuine "Look North" policy focused on improving income-earning infrastructure in the rural north, such as roads and agricultural support systems, and a "Look West" policy which focuses on the poor in the rural Western Division..*

4. *Government remove all ethnically discriminatory policies on public sector employment, education and any other area which constitutes ethnic discrimination leading to avoidable differences in the Non-Food Poverty Lines.*

5. *Stakeholders encourage Government to strengthen its Wages Council mechanisms to attempt to ensure that workers not protected by unions receive their timely cost of living adjustments to their incomes, where employers have a capacity to pay.*

6. *Government assist municipal town councils to improve the marketing infrastructure for farmers so as to encourage higher agricultural production and thereby reduce the cost of the Food Poverty Line.*

7. *Government examine the reduction of tariff protection on essential non-food items such as cement and roofing iron, in order to reduce the cost of the Non-Food Poverty Line*

8. *The authorities foster media campaigns to encourage the consumption of local foods (especially vegetables and roots) which are not only more nutritious, but also more cost-efficient.*

9. *Government foster the development of more fuel efficient wood-stoves with proper chimneys so that households using firewood for cooking may reduce their fuel costs, reduce the usage of wood, while also reducing health risks such as eye and nose and throat problems posed by open fires for household cooking.*

10. *Stakeholders focus national economic policy in an attempt to foster "pro-poor" and "women-friendly" economic growth strategies based on Fiji's comparative advantages, such that employment created will be World Trade Organisation compatible and incomes well above the poverty lines.*

Chapter 1

Introduction

The economic well-being or "standard of living" of the residents of a country in general is usually judged by macroeconomic aggregates such as Gross Domestic Product per capita while its change over time may be very simply assessed by the annual growth rate. It is recognised however, that such nation-wide averages can hide wide economic disparities and changes in the well-being of different groups amongst the population. Especially, they may hide the state of affairs regarding the poorest people, who are the major focus of development efforts in less developed countries like Fiji.

This may be a critical omission if the poor are not sharing in the economic well-being of the country. It can well happen that economies could be doing extremely well on average, with high average incomes and high economic growth rates, while the proportions and/or numbers of people who are considered poor may be rising, and/or their welfare may be worsening. Alternatively, a country may not appear to be doing well in aggregate, while the poor may see improvements in their welfare.

It is important therefore to understand the extent of poverty in the society, in terms of proportions of the population who are considered poor, the depth or severity of the poverty, and other relevant characteristics of poverty. A reasonably comprehensive manual for the understanding of quantitative poverty analysis is World Bank (2005).[4]

This chapter first gives an outline of the extremely broad current conceptualisation of poverty in the literature. It then focuses on the narrow quantitative treatment of poverty that is the primary objective of this monograph, the methodology that will be used, and its reference to the quantitative analyses of poverty that have previously been undertaken for Fiji. There then follows an outline of the rest of the chapters in the book and the content of the annexes.

1.1 How define poverty? The multi-dimensional interpretation

Poverty may be defined in many different ways. While this study focuses on a narrow quantitative analysis of poverty in Fiji, social scientists have developed broad definitions of poverty which go beyond poverty as the "inequality of conditions", to the "inequality of opportunities", in an overall context set by discussions of what constitutes "development" and what does not.

At one extreme may be a whole range of multidimensional approaches which examine the factors that contribute to persons feeling "happy" or "satisfied" such as Sen's (1999) well-known and often quoted "capabilities" thesis that what matters is the person's freedom to choose his or her functionings.

[4] *Introduction to Poverty Analysis*. World Bank Institute. August 2005.

Thus Townsend (1993:36) argued for the need to move beyond definitions of poverty focused on just lack of subsistence and material basic needs. He defined poverty as "relative deprivation" where a poor person "cannot obtain, at all or sufficiently, the conditions of life – that is, the diets, amenities, standards and services – which allow them to play the roles, participate in the relationships and follow the customary behaviour which is expected of them by virtue of their membership of society". He saw such an approach requiring an analysis of deprivation not just at work (albeit a key arena), but also at home, in the neighbourhood, travel, and all arenas for the fulfilment of social obligations.

Similarly, Dasgupta's (1993) *Inquiry into Wellbeing and Destitution* attempts to analyse a whole gamut of measurable and some immeasurable conditions such as health and nutrition, sense of personal utility, political and civil liberties, resources and property rights, access to public goods, intra-household inequalities, and national taxation and subsidy systems.

Such multidimensional discussions of poverty now permeate the thinking of the international and regional organisations which set the international agenda for policy making on poverty in individual countries. The United Nations' multi-dimensional approach may be seen in its 2007-08 Human Development Report and its reporting on development and underdevelopment throughout the world, through its Millennium Development Goals (MDG) approach.[5] Thus MDG 1 is the eradication of extreme poverty and hunger, with two targets. Target 1 is set out to be the halving of the proportion of people who are earning incomes below US$1 per day, between 1990 and 2015. Target 2 is to halve the proportion of people who suffer from hunger.

The UN's main summary measure for the state of development of a country is the Human Development Index (HDI) which brings together component indices based on long and healthy life (life expectancy), state of knowledge (adult literacy and total enrolment at primary, secondary and tertiary levels), and decent material standard of living (Gross Domestic Product per capita in PPP US dollars). The UN also has indices on poverty such as the Human Poverty Index, Gender Related Development Index, and the Gender Empowerment Index. Given that these composite indices lose much of the richness of information already available, the UN also gives extensive internationally comparable data on a whole series of economic, technological, social, and political variables, which are recognised to impact on the state of development and underdevelopment of countries, including the state of the poor in each country.[6]

This concern for the multi-dimensional nature of poverty has filtered through to the influential international and regional financial institutions, which historically used to be far more focused on economic growth. The World Bank (2003) acknowledges that any meaningful understanding of poverty and the formulation of poverty reduction strategies must be multi-dimensional in the sense defined by Amartya Sen when defining "absolute poverty" as "deprivation of minimal resources (capabilities) necessary for the free exercise of inalienable human rights: obtaining food and healthcare for oneself and one's children, choosing a profession in accordance with

[5] The 2007-08 Report and discussions around it may be read at the website http://hdr.undp.org/en/reports/.

[6] Internationally comparable data, for instance, are available on carbon dioxide emissions, crime rates, international conventions which have been signed, aid, foreign debt, etc.

one's abilities, taking part in society, enjoying self-esteem, and so on".[7] The World Bank sees the need to focus on broader human development and social development indicators addressing risk, vulnerability and social capital and the need to examine the implications of policy changes for poverty through a wide-ranging set of transmission channels such as employment; prices (production, consumption, and wages); access to goods and services; assets; and transfers and taxes. [8]

The Asian Development Bank (ADB) which has an influential role in analysing poverty and devising poverty reduction strategies for many Pacific Island countries, also has a multi-dimensional view of poverty as a "deprivation of minimum essential assets and opportunities to which every human being is entitled. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks. … individuals and societies are also poor—and tend to remain so—if they are not empowered to participate in making the decisions that shape their lives. [9]

The ADB (2007) emphasises the need to understand three related poverty concepts: human poverty (lack of essential human capabilities such as education and nutrition), income poverty (lack of sufficient income to meet basic needs) and absolute poverty (the degree of poverty below which the minimal requirements for survival are not being met, in food and non-food essentials). The ADB (2007) also holds "vulnerability" to be important, identified as environmental risk (droughts, floods, and pests); market risk (price fluctuations, wage variability, and unemployment); political risk (changes in subsidies or prices, income transfers, and civil strife); social risk (reduction in community support and entitlements); and health risk (exposure to diseases that prevent work).

Box 1.1 Are poor people unhappy? Are rich people happy?

While the basic methodology of this study is quantitative, it is acknowledged that at the most fundamental human level, there are concepts such as "happiness", and "contentment" which may have little to do with incomes and material consumption. A family considered "poor" by this study may not consider themselves poor.

Gasper (2004) noted "There are many major aspects of 'objective' well-being (such as health, family life, employment, recreation, quality of death), and these are also major determinants of subjective well-being. These aspects are far from invariably strongly positively correlated with access to commodities via income, so that income cannot act as proxy for the others. Indeed, the aspects can sometimes be negatively correlated with income and each other, so that to use income, or any other variable, as proxy for all the others can be seriously misleading".

In Fiji, the indigenous Fijian community has historically had very strong social values which emphasized the sharing of material benefits with extended families and their broader community. Such sharing was often to the detriment of accumulation of assets by individuals, households or profits of enterprises. Often there would be a forced reduction of expenditure on family education and health, and hence reduced standards of living even if the households' incomes may have been relatively high. That spirit of sharing is gradually breaking down with modernization and globalization, but the tension between social approval and personal or household satisfaction continues to be a difficult issue for most Fijian families.

The above quotes are extensively given here to acknowledge that a thorough comprehension of the nature of poverty can only be obtained by understanding a broad spectrum of qualitative and quantitative variables discussed above.

There have been several broad studies of poverty in Fiji, notably that by Stavenuiter (1983), Barr (1991), UNDP and Fiji Government in 1997 (The Fiji Poverty Report) and that by Naidu et al (1999). The former 1997 Fiji Poverty Report gave many quantitative results (such as the incidence of poverty in 1991 being 25 percent), some of which are corrected in this study. The study by Barr (1991) and Naidu et al (1999) focused more on the qualitative aspects of poverty and poverty alleviation strategies.

1.2 Measuring poverty through income deprivation

It is almost tautological that the broader is the definition of poverty, the harder it is to measure it consistently within countries, and across countries, and over time. But there are several reasons why it is important to measure poverty: to understand the true extent of it; to keep the poor and poverty on the agenda; to assist stakeholder to better target their poverty reduction strategies nationally (whether by regions, ethnicity, gender, employment characteristics etc) or internationally; to monitor the state of poverty over time, so as to assess the degree of success or failure of past policies; and to evaluate the effectiveness of institutions whose goal it is to help the poor.[10]

A practical difficulty for Fiji is that most of the associated characteristics of poverty have not been accurately measured to date at an aggregated national level, and certainly what may have been measured on an ad hoc basis, has not been measured consistently over time. Indeed, apart from the study by Stavenuiter (1983) there has been a fundamental lack of basic quantitative data on poverty as defined by income deprivation, which universally has provided the minimum foundation for an objective quantifiable analysis of poverty.

This study therefore attempts to provide a rigorous quantitative analysis of the adequacy of household incomes in Fiji in satisfying the basic needs of the household. The yardstick for defining the poor will be the Basic Needs Poverty Line (BNPL) which is the monetary value of goods and services that a household needs toconsume as a minimum, so as to ensure what society agrees to represent a “minimum decent standard of living”. A household with income below that BNPL at a particular point in time will be considered as poor. This study will present various alternatives for the BNPL so as to enable comparisons over time with previous similar assessments, as well give a variety of perspectives for different stakeholders who may wish to use different standards.

Kakwani (2003) has a discussion of the issues involved in setting poverty lines and the broad dichotomy into “relative” and “absolute” standards. Thus poverty lines may wish to reflect “relative deprivation” in which case there has to be reference to the “average” standard of living in the country. This “relative standard” naturally changes over time. Thus the OECD countries uses 50 percent or 60 percent of the median income as the standard. Such estimates are given in Annex 7.

[10] World Bank (2005:p.10).

Alternatively, the approach may use "absolute poverty lines" which have the characteristic of being "horizontally equitable": ie that there is an attempt to treat different individuals or households, regardless of their personal circumstances, equally across regions, countries, and over time. Ideally, all persons on a poverty line should have the same standard of living regardless of the region or country they live in, or the group they belong to. Of course, this is easier said than done, and cross country comparisons are particularly fraught with danger.

For Fiji, basic incomes data will be presented in such a fashion as to allow easy estimation of the incidence of poverty, for whatever values that stakeholders may wish to use for their poverty standard, given their preferences.

Where data is available, this study also attempts to give a broader picture of the "conditions of the poor" through an analysis of the assets and essential services enjoyed by poor households, as well as the nature of their participation in Fiji's labour markets.

1.3 Why income and not expenditure as the criterion for poverty?

Standard poverty analysis uses flows of resources for persons or households by week, month or year, in the form of income or expenditure. Often expenditure is preferred because it is supposedly more reliably recorded. It is thought that incomes tend to be under-reported or inaccurately measured, especially for the informal sector.[11]

It may also be argued that it is "actual expenditure" on goods and services and "consumption", rather than income which determines the realised standard of living. This may also be supported by the "life cycle hypothesis" which argues that households plan their consumption to even out variable flows of income over their lifetime. This of course may be debatable especially for poor families who rarely have access to loans to make up shortfalls in income, even if higher incomes may be expected in the future.

One critical objection to using actual expenditure as the criterion in Fiji, is that different individuals and groups of individuals may choose to spend more or less of their same income, not because of any intention of evening out consumption over their life-time, but because of group differentials in preferences for saving and future consumption. In some groups, a family with a high income, may have low consumption because of a deliberate choice to have higher savings, so as to build for future consumption, or higher inheritance to leave children. Others on similar incomes may have higher consumption levels (even funded by borrowings), because of different choices being made about savings for the future, and inheritances for the children.

Consumption expenditure may also have measurement problems, such as the question of including large expenditures for ad hoc events such as weddings and funerals, and also the appropriate amortisation of durable goods whose purchase prices and dates may not be known.

[11] Informal sector households may have difficulty separating out "business expenses" from household consumption.

This study argues that the real continuing capacity to enjoy a particular standard of living is represented by the income of the individual or household. The choice between current consumption of that income (current expenditure) and future consumption resulting from future incomes and savings from the current income is then a personal choice of the individuals concerned. The 2002-03 HIES results indicate that the sub-groups which are differentiated in this study for the analysis of poverty, do have significant differences in propensities to save, and hence consume.

Of course, it is quite likely that some households may have the capacity to spend and enjoy a particular standard of living, but individuals in control of the income (and expenditure) may choose to spend in a manner which does not optimise the welfare of all the household members. Indeed, some may be deprived and be "in poverty" even if the household's income is at a level which defines it as "not poor". This is an aspect which deserves further research.

Annex 11 gives some of the incidence of poverty results derived by using ranking of households by Expenditure pAE pw with the Expenditure pAE pw of the household being compared to the common values for the BNPL.

1.4 Why income and not wealth as the criterion for poverty?

It may be argued that the capacity to enjoy a particular standard of living depends not just on current income, but the overall "wealth" of the individual. Some individuals may have low flows of income and/or expenditure but possess quite high levels of wealth such as potentially productive land or property which may not be producing flows of income that could be expected at market rates of return.

There may be individuals in the population who possess significant amounts of wealth in the form of financial securities, or real estate, which may result in moderate flows of income, but which do not reflect adequately the degree of economic security and sense of material well-being possessed by the wealth owner, nor the capacity of the household to indulge in higher expenditure by judicious liquidation of the wealth over the household's.

This issue may also be an important consideration for ethnic comparisons in the Fiji context where indigenous Fijians are generally supposed[12] to have access to their *mataqali* land which may not be optimally used, while there are large proportions of Indo-Fijians who do not own land. Food poverty, for instance, should not be an issue where there is ready access to adequate land and sea resources. Lack of access to land and sea resources would also give a perspective on income poverty of households.

It is an unfortunate weakness of Fiji's HIES that there have been no questions on land ownership and access, which could have allowed this to be factored into the analysis.

It would also be useful to have just a few questions on other physical assets which households own or have access to, and which can potentially be used for income purposes, aside from their main activities. Such information would be useful as indicators of vulnerability to poverty.

[12] Many Fijian communities do not own land, and much of the best native lands are leased out.

1.5 Chronic and Temporary Poverty

Thorbecke (2004) points out the importance of differentiating between "chronic" poverty (person or household being perpetually poor) and "transient" poverty (persons or households moving in and out of poverty), and also "vulnerability" where the risk of a person or household falling into poverty in the near future is also examined.

The analysis of poverty in this study is basically a snap-shop taken at a point in time. This snap-shop does not encompass the time element nor the vulnerability issue. This is large a result of the reality that the 2002-03 HIES did not have any questions on incomes earned in previous years. Future HIES may wish to have a question or two on incomes earned five years ago, as an indicator of the vulnerability of poor people over time.

1.6 The history of poverty analysis in Fiji

The quantitative analysis of poverty in Fiji does not have a long history, and certainly not robust and consistent enough to enable sound conclusions to be drawn about the changes in the incidence of poverty over time.

The earliest post-independence[13] quantitative study was by Stavenuiter (1983) and Cameron (1983) based on the 1977 Household Income and Expenditure Survey. Since then, there have been numerous studies, mostly qualitative. Barr (1991), starting from a Christian perspective, gave a comprehensive analysis of the broader aspects of poverty through case studies of poor families, and the bringing together of the findings of previous studies. The study by Naidu et al (1999) focused on poverty eradication strategies, but was not published.[14] There have also been other more focused studies such as (Bryant:1994) examining problems of housing, especially for low income persons and squatters.

The most recent quantitative analysis was a UNDP/Fiji Government commissioned study by Ahlburg (1995 and 1996) using 1991 HIES data. The quantitative results of Ahlburg's study were then used (some wrongly) by the 1997 Fiji Poverty Report (FPR). Unfortunately, the 1991 HIES was deemed by the FIBoS to be unreliable and no official report was ever published.[15] Nevertheless, the 1997 Fiji Poverty Report and its key statistical results on poverty incidence in Fiji (some clearly wrong), have been the reference point for the analysis of poverty since then.

This current analysis is based on the 2002-03 HIES, the Report for which was published in 2006 (Narsey, 2006), and the 2004-05 Employment and Unemployment Survey, whose Report was published in 2007 (Narsey, May 2007).

One difficulty facing any attempt to assess the long term changes in the extent of poverty has been the lack of consistency in the methodology of analysis of these different studies, and sometimes the lack of clarity in the methodology that was used to derive the statistics.[16] This study attempts to provide a clear explanation of the

[13] Fiji obtained political independence from Britain in 1970.
[14] Fiji's Poverty Alleviation and Eradication Strategy Framework. July 1999. (unpublished).
[15] The Bureau considered the data to be extremely unreliable.
[16] This is especially true of Ahlburg (1995).

methodology, so that meaningful comparisons may be made with the results of these previous studies, where possible.

The primary aim of this study is to enable the various poverty stakeholders in Fiji to make an assessment of the current state of poverty. It is also important, however, to understand enough about the methodology to comprehend the limitations of the current and previous analysis. As well, this study attempts to give data in such a form that stakeholders may use their own values for the Basic Needs Poverty Lines, to estimate the incidence of poverty in Fiji in 2002-03. Throughout, the emphasis is on simplicity, ease of understanding, and policy applicability. This study also attempts to give a critical survey of previous attempts at the quantitative assessment of poverty in Fiji at the national level.

1.7 Outline of chapters

The empirical data and analysis depend very strongly on statistical soundness. That cannot be presumed. Indeed, there will be references in this study to critical conclusions drawn in the past that have been based on statistically unsound data, and methods.[17] It is useful therefore, to understand the methodology of calculating the incidence of poverty using the Basic Needs Poverty Line approach, including the detailed methodology behind the estimation of the components. This is given in Chapter 2.

Chapter 3 outlines the historical derivation of the Food Poverty Lines for Fiji: the first FPL established by Stavenuiter (1983) for his analysis of the 1977 poverty situation, as well as the establishment of the FPL by the 1997 Fiji Poverty Report for the analysis of poverty in 1990-91. Also given are the relevant expenditure results of the 2002-03 HIES and how these indicate that the previous FPLs are no longer appropriate given the broad food consumption patterns of the major ethnic groups in urban and rural areas. The chapter then gives an alternative formulation for the FPLs for the two major ethnic groups (Fijians and Indo-Fijians) based on actual consumption patterns of the middle quintile and the nutritional content of the foods consumed, differentiated by urban and rural areas, for households of size 4 Adult Equivalents (AE).

Chapter 4 gives the derivation of the Non-Food Poverty Line and examines the justification for different values used for different ethnic groups, adjusted to a household size of 4 Adult Equivalents. The previous method of deriving the BNPL using the "multiplier" method is explained, as well as a major weaknesses if this approach was used for Fiji.

Chapter 5 gives a historical analysis of the incidence of poverty, with the study pointing out a number of inadequacies in the previous 1997 Fiji Poverty Report. The weaknesses of the 1997 FPR are covered more fully in Annex 1.

Chapter 6 then gives the basic poverty incidence results derived from the incomes data of the 2002-03 Household Income and Expenditure Survey, using both common

[17] We argue below that Fiji's incidence of poverty in 1991 was not the universally quoted 25 percent but at least 29 percent, and possibly 32 percent.

and ethnically differentiated values for the BNPL. The results are presented in such a fashion that stakeholders may use whatever BNPL they wish to obtain good estimates of the associated national incidence of poverty. Alternative BNPLs are used to give a range of values for the incidence of poverty for the major ethnic groups, by rural and urban areas. As well, there are given estimates of poverty by division and major source of household income. This chapter also gives estimates for the Poverty Gap, using both common values for the BNPL as well ethnically and regionally differentiated values.

Chapter 7 presents some important issues in the distribution of income, especially as useful for ethnic comparisons, and differentiated by rural and urban areas.

Chapter 8 gives a snap-shot of the conditions of the poorest 30 percent of Fiji's population, in relation to those in the middle 40 percent and the top 30 percent of the population.

Chapter 9 gives a broad profile of the gender aspects of the incidence of poverty, using material from *Gender Issues in Employment, Under-Employment and Incomes in Fiji* (Narsey: December 2007). Chapter 11 provides some broad conclusions and recommendations.

Chapter 10 attempts to compare the incidence of poverty and income distribution between 1977 and 2004, using available data for 1977, 1991, 2002-03 and 2004. It especially uses the results of the 2004-05 EUS to give a profile of the incidence of poverty amongst income earners, or those normally classified as "Economically Active", as well as the incidence of poverty amongst households and their occupants.

Readers who are not interested in the methodological details of the analysis or the derivation of the Food Poverty Lines, the Non-Food Poverty Lines and the Basic Needs Poverty Lines, may skip the next three chapters, and proceed to Chapter 5 which gives a historical analysis of poverty in Fiji, or skip to Chapter 6 which gives the most current analysis of the incidence of poverty and the Poverty Gaps.

The annexes cover a number of areas which are related to the subject matter, but whose inclusion in the main body of the text would detract from the flow of the analysis and findings.

Annex 1 has a discussion of the possibilities of errors and confusions in the poverty statistics given in the 1997 Fiji Poverty Report by UNDP and the Government of Fiji.

Annex 2 gives some data on the changes in the distribution of total household income in 1977, 1991 and 2002.

Annex 3 gives the nutritional content of the 1977 Food Poverty Line basket used by Stavenuiter and the 1997 Food Poverty Line baskets devised by the 1997 Fiji Poverty Report.

Annex 4 examined the extent of economies of scale in Unit Food Expenditure for Quintiles 1 and 2.

Annex 5 outlines the possibilities of economies of scale in unit Non-Food Expenditure pAE pw for quintiles 1 and 2.

Annex 6 examines unit food expenditure for vegetarian households, in relation to that for meat-eating households and brings out some implications for the average values for the FPL for Indo-Fijians specially.

Annex 7 has a brief discussion on the implications of protectionism on the incidence of poverty.

Annex 8 gives the incidence of poverty using the "relative standards" of 50 percent and 60 percent of the median income per AE pw.

Annex 9 gives some poverty incidence figures associated with the international standards of US$1 and US2 (PPP) per adult per day.

Annex 10 gives the poverty incidence results for households ranked by Expenditure pAE pw.

Annex 11 gives a broad perspective on the economic progress made by indigenous Fijians since 1977, an important issue in Fiji's politics.

A squatter area on the outskirts of Suva, next to the mangroves

Chapter 2

The Basic Needs Poverty Line Methodology

The choice of methodology in the analysis of poverty is extremely important in that, for the same group under study at a point in time, different methodologies can lead to quite different conclusions about who are poor, and the depth and severity of their poverty. Sometimes, small changes in methodology can result in significant changes in the assessment of the incidence of poverty amongst different groups. Kakwani (2003, p.2) points out, for instance, that inconsistent poverty lines can not only make identification of the poor quite problematic, but also lead to "highly biased estimates of the incidence of poverty".

This chapter sets out the basic components or steps in the "cost of basic needs" or "basic needs poverty line" approach, the differences between absolute and relative standards, the key indicators of Head Count Ratio (or incidence of poverty) and the Poverty Gap, and the necessity to use some Equivalence Scale to allow for differences in household size. There is also a brief account of the survey methodology and data that is used for the poverty analysis, as well as possible sources of error.

2.1 The "Cost of Basic Needs" Approach: Relative and Absolute Standards

This study uses the "cost of basic needs" approach to estimate the proportion of a population which is considered to be "poor" by an agreed upon standard for meeting the basic needs of the household. The usual method is to make some "socially acceptable judgement" about firstly what constitutes the "minimum basic needs" or "basket" of a standard household in food and non-food items of consumption, and secondly the monetary value of the resources required to satisfy those basic needs. This constitutes the Basic Needs Poverty Line (BNPL) per standard household, which is then converted to a per capita basis through some equivalence scale.[18]

Each household's income (also converted to a per capita basis) is then compared with this BNPL per capita. The household is considered "poor" if its income per capita is below that standard. The "incidence of poverty" or the "head count ratio" is then estimated to be that percentage of the population in the households which do not receive that minimum level of resources or income as indicated by the BNPL.

There is naturally a serious methodological problem in that this "black and white" definition of poverty is quite arbitrary in that a household with a few cents more income than the BNPL per capita will be defined as "non-poor" while one with a few cents on the other side of the line is called poor. Unfortunately, this problem remains whatever the level of BNPL chosen and the only way around it is to have a multidimensional approach to defining poverty.

[18] We shall use the UN concept "Income per Adult Equivalent".

The BNPL may be defined in any number of different ways, broadly categorised into "relative" poverty lines and "absolute" poverty lines.

The relative approach "defines the poverty line in relation to the average standard of living enjoyed by a society".[19] The "average" standard of living also can be defined in different ways. One common approach is to use the "median" household as the standard and then setting the BNPL as 50 percent or 60 percent of the median income of the country. The median is preferred because it is more stable over time than the "mean" which is affected by the extreme values at both the upper and lower ends of the income distribution. Annex 8 gives the results of the use of this approach for Fiji

This "relative poverty" standard obviously changes over time, depending on the changes in median income, usually the outcome of broad changes affecting the bulk of the people in the middle classes. For developed countries in particular, this relative standard is preferred to absolute standards which usually are so low as to make the analysis of poverty somewhat meaningless, especially when relative deprivation is the focus. Relative standards are however not particularly useful when it comes to making international comparisons of the incidence of poverty. Annex 8 gives some estimates of the incidence of poverty for Fiji, using the median income as the reference point.

Absolute standards, on the other hand, attempt to use minimum standards of living based on basic nutritional requirements, and essentials such as housing and clothing and other non-food necessities. An absolute standard needs to be consistent across regions within a country, and take account of systematic differences in consumption patterns between the different comparator groups.

Absolute standards commonly used at the international level are the US$1 per day[20] or US$2 per day at Purchasing Power Parity (or PPP) although there is considerable debate about its consistency and usefulness within countries, and across countries. Annex 9 gives some estimates of the incidence of poverty in Fiji using the internationally used BNPL of (Purchasing Power Parity)[21] US$1 or US$2 per day per adult. However the resulting Fiji dollar values are indicated to be far too low in comparison to the costs of basic foods required for minimum nutritional levels.

While several alternatives to BNPL standards are used in this study, the central approach is to break the BNPL into its two components which are estimated separately- the Food Poverty Line (FPL) and the Non-Food Poverty Line (NFPL). A number of ADB studies give an outline of the recent use of this approach in countries like Nepal (Chhetry 2004), and Sri Lanka (Gunetilleke and Senanayake 2004), and the associated problems in the analysis and results.

The FPL is the value of the basic basket of foods that are typically consumed by the population, with the objective of satisfying the minimum nutritional requirements of a standard household, simplified usually to one criterion: 2100 calories per person per

[19] Kakwani (2003), p2.
[20] This was originally given as US$1 per capita per day in 1985 US dollars, then revised to US$1.08 in 1993 prices, and US$1.31 in 2004 prices.
[21] This requires a conversion of US$1 and US$2 into the local currency at the official exchange rate, adjusted for differences in the cost of living between US and Fiji.

day. In Fiji, the FPL has a strong element of "absolute standard" in that there is a similar minimum per capita calories requirement (slightly higher 2200 calories), although it will be shown that the Food Poverty Line baskets over the years have been somewhat generous. The revised FPL basket presented in this study takes reference from the middle quintile pattern of food consumption in Fiji, hence it also has a "relative" element.[22]

The NFPL is the value of the essential non-items required for the subsistence of the person or household. The World Bank (2005, p.56) notes that there are many different approaches possible and used in different developing countries. A number of methodological approaches in estimating this value are presented in the relevant chapter, some seemingly "absolute" and some clearly having a "relativist" element.

The BNPL is then the sum of the two components (FPL+NFPL) and the incidence of poverty (or the Head Count Ratio) is then estimated as the proportion of the population whose income is below this BNPL.

2.2 The Poverty Gap

The incidence of poverty does not tell us how far below the standard, are the people considered to be poor. For instance, it is possible that most of the poor may be just below the standard with little required to raise them above it. Or most of the poor may be well below the standard thus requiring much greater resources to alleviate the poverty.

The extent or depth of poverty therefore also needs to be measured. For a person or household, the depth of poverty is the difference between its income and the BNPL- that reflects the amount of resources that are need to raise that individual or household up to the BNPL, the minimum standard.

The "Poverty Gap" for the group is then the aggregate value of the individual poverty gaps, for all the poor in the population. It is the total dollar amount (often expressed as a percentage of GDP) required to bring those considered poor, up to the minimum standard as indicated by the BNPL, whether common or differentiated values.

2.3 Individuals or Households?

Economic theory does a bit of a logical jump when it comes to poverty analysis. Typically, economic models are based on individuals as the unit of analysis maximising their own personal "utility" or satisfaction. Given a particular availability of income, the individual chooses how much to consume and how much to save. And the individuals also makes personal choices, based on their own preferences, between different goods and services, given their prices.

However, in poverty analysis, the fundamental unit is the "household", for two reasons. First, it is generally thought that individuals in a household pool their incomes and the collective expenditure is enjoyed by all in the household, adults,

[22] The middle quintile, rather than the first or second quintiles, is used to identify the typical pattern of food consumption amongst the different sub-groups. The lower quintiles would already seem to be suffering from poverty and hence their food consumption patterns may be seriously biased.

children and elderly alike. Clearly, the size of the household then has a bearing on the standard of living. It would therefore be incorrect to focus merely on the aggregate incomes of the recipients.

In aggregating the incomes of the household there is clearly an assumption that all the individuals do pool all their incomes into the household. This issue can be quite important in families where there are very unequal internal distribution of resources, because of gender, age, or the nature of family connection of individuals concerned.[23]

It is equally an assumption that the total expenditure in the household is enjoyed equally by all the individuals in the household. This also may not be accurate. Non-income earners may not receive equal attention in expenditure benefits. There also may well be extended family members who may not receive education, health or entertainment expenditure benefits equivalent to those received by the nuclear family members. Certainly, alcohol and tobacco consumption is unlikely to be enjoyed by the children and to a lesser extent women. The intra-household distribution of resources is an important area of research for poverty analysis in Fiji.[24]

2.4 Equivalence scales: adjusting the BNPL for household size

It is generally accepted that the standard of living of a household depends not just on the income enjoyed, but the number of persons in the household who need to be supported by that income. So for ranking purposes, the total income of the household is usually standardised by adjusting for household size.

There are different methods of adjusting for household size. The simplest method is to divide the household income by the number of persons in the household, obtaining the usual " income per capita" measure. This effectively treats each person in the household as requiring equivalent resources.

It is however thought that children and the elderly do not normally require as much resources as adults of working age. Another approach therefore converts the number of persons in the household to "Adult Equivalents" by some formula. Different formulae are possible, in discounting children and adults.

The UN approach is to treat each child between the age 0 to 14 as equivalent to half an adult, and any person over the age of 14 as 1 adult.[25] This Report uses the UN method of calculating Adult Equivalents, because of its widespread use. This does not allow for economies of scale, whose impact can be significant (see Annex 5).

Total household income is then divided by the number of "adult equivalents" to give Income per Adult Equivalent (Income pAE). All households are then ranked by this criterion, with the assumption that the higher the Income per AE, the higher is the living standard of the household. This is the definition that is used in this report.

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[23] It is quite common in Fiji, especially amongst indigenous Fijian families, for extended family members to be part of the household for long periods of time. Often, children are sent to urban families because of the better schools in urban areas.

[24] Sunil Kumar, an economist at USP, is currently undertaking research for his PhD, with a small suburban community of Indo-Fijian families.

[25] This was the approach used by UNDP (1997).

There is also an OECD approach which allows for the possibility that there are usually economies of scale in household expenditure, in that the resource requirements of a household do not rise strictly in proportion to the numbers in the household. Usually, there are cost savings associated with large households, such as in cooking, electricity bills, transport etc. The OECD approximation is therefore to treat every adult after the first one as 0.7 of an adult, while children (14 years and under) are treated as 0.5.[26]

Annexes 4 and 5 in this study point to the existence of significant economies of scale in Food and Non-Food expenditure. While these are not allowed for in the calculations of the incidence of poverty, smaller families may tend not to be regarded in poverty (when they may be) and larger families may be regarded to be in poverty (when they might not be).[27]

2.5 Social consensus and conflicts of interest over poverty standard

One should not under-estimate the difficulties of obtaining "social consensus" over the income measure which is to represent the "decent standard of living". Not only is there a necessity for subjective judgements throughout the analysis, but there are also potential and real conflicts of interest in setting the level of the BNPL, amongst affected stakeholders.

There has to be some subjective judgement by the analyst as to what level of income (or expenditure) should be used to define the boundary of poverty through the BNPL and its components, the Food Poverty Line (FPL) and the Non-Food Poverty Line (NFPL). This can only be arrived at by some process leading to social consensus amongst stakeholders with quite differing views.

Different views arise not just because unbiased assessors have different opinions, but often because of self-interest. There are many stakeholders whose economic interests are affected by the levels which are set for the Basic Needs Poverty Line.

Most directly affected are those whose incomes or receipts may be influenced upwards (or downwards) by the level which is set. The largest group is probably workers whose wages and salaries may be near the BNPL. Also affected may be pensioners or recipients of social welfare benefits.

On the other side will be employers, the bulk of whom would be private sector employers employing non-unionised mostly casual labour on relatively low wages. There also are non-profit organisations who also pay wages which tend to be on the low side (Narsey, 2006).[28]

Apart from these two sets of stakeholders with opposed interests, there are also a wide array of "mediating" stakeholders, such as Non-Government Organisations (NGOs) or Non-State Actors (NSAs), interested in exercising influence on incomes policy.

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[26] The OECD formula is: AE = 0.3 + (0.7 * No. of adults) + (0.5 * No. of children).

[27] The two errors may cancel each other out to some extent.

[28] See my publication Just Wages for Fiji. ECREA and Vanuavou Publications, 2006.

Last, but not least, governments and opposition political parties are also interested parties. A government's performance on national economic management is partly judged by its impact on the incidence of poverty during their tenure. It would be in their interest to use a low BNPL which minimises the apparent extent of poverty. Opposition parties on the other hand, may wish to have higher values for the BNPL so as to use the associated higher levels of poverty incidence to criticise the government's performance on poverty alleviation.

Note that BNPL values differ widely throughout the world. A suitable BNPL for Fiji will be much higher than those for poverty-stricken and resource-poor countries like Bangladesh and India, and certainly Fiji's FPL Line basket may be considered a "middle class" basket of foods in Asia. Conversely, Fiji's BNPL (and Food Poverty Line) would be considered low by developed resource-rich countries like Australia and New Zealand.

There is clearly a trade-off between setting a BNPL which is so low as to make little difference in the lives of the poorest citizens affected (through the implied public policies), and setting it so high that it becomes difficult to implement without widespread redundancies and costs for those intended to be helped.[29]

How exactly is this social consensus to be obtained? How should a decision be reached when there are often very strong opposing views with inherent conflicts of interest? Which stakeholders should be allowed to have an input into the determination of the critical parameters such as Food Poverty Line, and Non-Food Poverty Line, and how is the decision to be reached? Must there be consensus amongst all the political parties in Parliament, for instance? Or can a Government simply organise a "national summit on poverty", invite those it chooses to invite, and simply push through the views of the relevant ministries?

Given that there is a wide degree of subjectivity in the determination of a BNPL, it is critical that the BNPL for Fiji should be set after full consultation with all important stakeholders. The greater is the consensus over the standards to be set, with the widest social and political support, the greater will be the potential for the poverty analysis results to be used meaningfully. It would be unrealistic to expect that there will be complete national consensus.

2.6 The Use of Household Income and Expenditure Surveys

The basic data for the analysis of poverty is usually obtained from household income and expenditure surveys (HIES) run by bureaus of statistics. There are different ways of conducting surveys. The reader may refer to Annex B of the Report on the 2002-03 HIES, for the method used by the FIBoS.[30]

[29] A particularly troublesome example is that of Fiji's low wage garment industry which is extremely uncompetitive compared to those of China, India and Bangladesh, with the latter having wages a fraction of Fiji's garment industry.

[30] For the 2002-03 HIES, the Bureau first chose an extremely large frame of households consisting of some 90 thousand households (out of a total of some 156 thousand households) on which they obtained basic demographic and household data. They then randomly selected 5246 households for the detailed information on income and expenditure.

Typically, the HIES selects a random sample which may be between two to five percent of all the households in the country[31] and interviewers record the household's income and expenditure on various books covering the demographic characteristics, households status, large items of income and expenditure, and a detailed diary of daily expenditure.[32] Households are selected in "rounds" throughout the country, staggered over the whole year so as to ensure that seasonal characteristics are fully covered.

The data recorded on the books are then coded and entered on computers. A scaling factor is then applied to all the data, depending on whether the data refers to an annual flow (scaling factor = 1), monthly flow (scaling factor = 12), or fortnightly flow (scaling factor = 26). There is usually an editing of the data to ensure that errors in coding, data entry, or scaling are minimised. Then the data is analysed by Bureau staff or outside consultants, adjustments made where deemed necessary,[33] and the results used in the poverty analysis.

2.7 The Use of Employment and Unemployment Surveys

This study also makes use of the 2004-05 Employment and Unemployment Survey (EUS) done by the FIBoS. The EUS obtained data on employment, unemployment, and incomes of all individuals in a sample of households. The 2004-05 EUS does allow the analysis of poverty incidence at the level of individual income earners, with a number of accurate disaggregations possible such as gender, rural/urban, ethnicity, age, geographical location, industry, occupation, etc. Such disaggregations were available through the 2002-03 HIES.

The EUS incomes data may be aggregated to the household level for analysis of poverty. However, with no data on expenditure, a very rough adjustment had to be made for imputed rents to all households, and hence this methodological difference with the HIES estimates of household incomes, means that there cannot be strict comparability between the absolute results obtained from the two surveys. Nevertheless, it is pertinent that the 2004-05 EUS gives very similar results for the relativities in poverty incidence as are given by the 2002-03 HIES, and especially the rural/urban and ethnic variables.

2.8 Possibility of Survey Errors, Data Processing and Analysis

Especially with surveys in developing countries, errors are possible at every stage of the survey: survey design, data collection, coding, data entry and analysis.

Each household is allocated a weight which, as a proportion of the total weights of the sample, represents the probability of that household being selected from the national frame. The household weights are then used as "rating up factors" to derive national aggregates for whatever variables are being considered at the time. The sampling frame is usually obtained from the previous census. However if several years have

[31] A recent HIES in Tuvalu used a large 33 percent sample.
[32] For the 2002-03 HIES, the diary expenditure was recorded for two weeks.
[33] One major adjustment is the assessment of "imputed rents" for households where the dwellings are owned, and no rent paid. The imputed rents allow proper comparison with households which do pay rent.

elapsed since the census, then population movements in the intervening period may make the sample less representative and the weights may not be accurate.[34]

There is the usual tendency for households to under-state their incomes, whether actual monetary incomes from first, second or this jobs, in-kind consumption, or transferrs and remittances.. This problem may be especially acute at upper income levels, but also affects the middle classes deriving incomes from the private sector, or public sector employees obtaining incomes from activities other then their normal full-time employment.

There also may be a tendency for households to under-report expenditures. This could relate to goods with social stigma attached (such as alcohol, tobacco and kava) or luxury goods (such as jewellery) which may be indicative of unofficial or unreported incomes. Households may also not wish to co-operate with Government interviewers for a variety of understandable reasons.[35]

Naturally, the quality of recording of the data by the interviewers may be questionable if the training has not been rigorous enough or if the interviewers are not conscientious. There can also be errors in coding and the cleaning up of the raw data, and of course, also the possibility of errors made by the poverty analysts themselves.

2.9 Summary of Steps to calculate the Incidence of Poverty

Step 1 Calculate for each household its Income per Adult Equivalent (Income pAE) and rank all the households by this criterion.

Step 2 Determine the value of the Food Poverty Line per Adult Equivalent (FPL pAE). This is discussed in Chapter 3.

Step 3 Determine the value of the Non-Food Poverty Line per AE for a household of size 4 AE (covered in Chapter 4).

Step 4 Estimate BNPL pAE = Food Poverty Line pAE + Non-Food PL pAE.

Step 5 Estimate what percentage of the population are in households below these values for the BNPL pAE. This is done in Chapter 5.

Step 6 Calculate the value of the poverty gap at varying levels of BNPL pAE pw, or the total resources required to bring "poor households" up to the minimum standard (done in Chapter 5).

The detailed methodology for setting the Food Poverty Lines and Non-Food Poverty Lines is given in the next two chapters.

[34] This for instance, may have been a problem with the 2002-03 HIES, which used the 1996 Census frame, adjusted by the FIBoS where some data was available on likely changes in population. The resulting population estimates were on the low side, even assuming that institutional populations are not included in household surveys. The 2004-05 weights based on amended frames would appear to be more accurate.

[35] This was apparently the case with the 1990-91 HIES, coming soon after the 1987 coups.

Chapter 3

The Food Poverty Line

Freedom from hunger is considered to be a basic human right and not having adequate food for basic sustenance, is one of the clearest symptoms of poverty. Households are also considered to be in poverty if income or resource constraints are such that they are unable to consume the quantity and quality of food that ensures that they satisfy some socially accepted minimum nutritional standard. The Food Poverty Line (FPL) is the monetary value of the particular basket of foods that are supposed to provide the minimum nutritional requirements for a standard family size.

This chapter sets out the logic behind the creation of the FPL baskets for 1977 and 1991 by previous poverty analysis. It also uses the food consumption results of the 2002-03 HIES to show the unsuitability of the FPL baskets designed in 1997. This chapter explains the methodology of the design of the more appropriate revised Food Poverty Line Baskets for Fijians and Indo-Fijians, differentiated between rural and urban areas, and based on actual 2002-03 consumption patterns.

3.1 Nutritional content of FPLs

The nutritional requirements of a household depend on a number of factors including the age and gender of the members, whether the household members are expected to do sedentary work (such as in urban areas) or more energy intensive work (such as is typical in rural areas), and even the climate of the country. Kakwani (2004) explains the Direct Calorie Intake (DCI) method of determining if a household is in food poverty: a household is identified as poor if its actual calorie intake is less than its calorie requirement.[36] This however requires the HIES data to be sufficiently accurate to enable calculations of actual calorie intake.[37]

This DCI approach however has a more serious methodological difficulty in that the actual calories consumed may not bear any relation to the capacity of the household to consume the related quantities of food, given their income or expenditure. A high income household may consume low quantities of food and more of non-food items, because of household preferences. Additionally, a households expenditure on food may be biased towards items which are not optimum for supplying the nutritional requirements.

Kakwani (2004) also outlines the Food Energy Intake (FEI) method proposed by Greer and Thorbecke (1986) which focuses on a standard basket of foods which if consumed would provide the basic nutritional requirements. The Food Poverty Line is then the food expenditure level at which the individual's or household's nutritional needs are met. To allow for basic non-foods items of consumption, this approach

[36] Although Kakwani refers to "per capita" intakes and requirements, the comparison has to be between the total household requirement (given its age and sex composition) and its actual intake.
[37] One serious difficulty with this approach would be the treatment of items of expenditure which are bought in bulk (such as rice or flour) and not consumed within the reference period.

takes the inverse of the Engel-type demand curve for calories, with the total poverty line then being interpreted as "the total income or expenditure level at which the typical individual's nutritional needs are met".

Separate poverty lines then may be calculated for each group or region, to reflect the differences in costs of living as well as in food preferences. Kakwani (2004) warns however of the danger that people in richer regions may have more expensive tastes and may buy fewer calories per unit of currency than people living in poorer regions. The result may well be that the Food Poverty Line in a richer region may be higher than that in a poorer region, and may result in a higher incidence of poverty than may actually be the case. This would violate the consistency requirement of a poverty line, that persons on the poverty line anywhere should have the same standard of living.[38] A similar comment may be made with respect to differentiating between different ethnic groups.

This study uses the Food Energy Intake method for determining the Food Poverty Lines for different sub-groups, and separately calculating the Non Food Poverty Lines by various methods. The sum of the two components then gives the Basic Needs Poverty Line which is used as the poverty standard. The Food Poverty Line takes its reference from a basket of foods thought to comprise a low cost minimum "nutritionally adequate diet" for a household of designated size. Of necessity, there has to be some value judgments made as to the composition of this basket of foods.

Box 3.1 Why have Different Food Poverty Lines for different groups?

It is usually argued that different FPL baskets are justified for different ethnic groups because of cultural differences in food tastes, especially if based on religious beliefs. But why should society use different ethnic FPL baskets simply because different sub-groups choose to consume different food baskets, according to their social, religious or cultural preferences?

Different food baskets will usually have different total monetary values. If the FPL for a particular group tends to be on the high side, it would also follow *ceteris paribus* that the incidence of poverty for that group would also tend to be on the high side. Why should a group be considered poorer because it chooses to consume more expensive foods?

Note also that one use that is often made of the BNPL (of which the FPL is a critical component) is to set standards for wages so as to be above the Basic Needs Poverty Line (in which the FPL is a critical component). So should a particular group of people be paid more because of what they choose to consume because of their personal preferences? To take an extreme example, should there be different FPLs for meat-eaters and vegetarians (see Annex 5 for the monetary significance of this), and if one costs more, should that group be paid more?

By a sheer coincidence the monetary values for the Food Poverty Lines for all four sub-groups (Rural and Urban Fijians, Rural and Urban Indo-Fijians) for 2002-03 are roughly the same. Hence the question of different Food Poverty Lines is not an issue for 2002-03, despite the different composition of the FPL basket. This is unlikely to be so in 2008, given the large increases in the prices of rice and flour, which are relatively more important for Indo-Fijians.

[38] This issue is of relevance in Fiji where Rural Fijians are indicated by the 2002-03 HIES to have much higher levels of food consumption than Urban Fijians at the same decile level.

In Fiji, the basket of goods comprising the FPL has varied over time, as different committees comprising nutritionists, economists, planners and other stakeholders have had their varying inputs. The standard practice has been to derive different FPL baskets for standard families of the two major ethnic communities in Fiji- indigenous Fijians (referred to in this study as Fijians) and Indo-Fijians. Box 3.1 contains some reservations on this practice as applied to the Fiji situation.

3.2 The 1977 Stavenuiter FPL Baskets

In the poverty analysis conducted by Stavenuiter (1983) using the 1977 HIES data, there were two very simple baskets of foods for the two major ethnic groups, assumed to be the same for both rural and urban areas.

Table 3.1 The 1977 Fijian and Indo-Fijian FPLs (Stavenuiter)

Food group	Item	Unit	Fijian	Ind-F
Rootcrops	*Cassava*	Kg	18	
Cereals	Flour	Kg	5	
	Rice	Kg	9	9
	Bread	Kg	2.8	
	Sharps	Kg		4
	Biscuits	gm	500	
Meat and Eggs	Tinned Fish	Kg	7	7
Fats and Oils	Cooking Oil	Lt	.75	.75
	Butter	Kg	.5	
Vegetables	*Rourou*	Kg	1.5	
	Tubua	Kg	1.2	1.2
	Dhal	Kg		2
	Chillies	gm		100
	Garlic	gm		250
	Onion	Kg	1	1
General	F/Cream Milk	Kg	1	1
	Sugar	Kg	2	2
	Tea	gm	100	100
	Curry Powder	gm	150	150

Source: 1997 Fiji Poverty Report, Tables 3, 4, p.129.

It may be readily seen (Table 3.1) that the items are extremely limited in range and quite unrealistic even for the poor people whose basic diet they are supposed to represent. *Dalo* (important for indigenous Fijians) and potato (important for Indo-Fijians) are missing from root-crops; there are no fresh meats at all; while the vegetables are also extremely limited.

Nevertheless, Annex 3 indicates that these two sets of food baskets not only supplied more than the minimum of all the major nutritional requirements, but were quite generous in their provision of energy, protein, carbohydrate and fat.

It will be shown that later FPL baskets came closer to the minimum requirements while being quite broad in their composition. It may be noted that even in poor countries like Nepal, the Food Poverty Line baskets can be quite rich in composition, including a variety of meats, fruits, lentils and vegetables.[39] The 1977 baskets of foods were revised when the 1997 Fiji Poverty Report (hereafter referred to as the 1997 FPR[40]) was being compiled.

[39] See Table A6 in Chhetry (2004).
[40] The Fiji Poverty Report (April 1997) was jointly published by the UNDP and Government of Fiji.

3.3 The 1997 Food Poverty Line Baskets

The 1997 FPL were meal plans designed in consultation with representatives of the Ministry of Health (Chief Dietician and Lecturer Dietetics), University of the South Pacific (Head of Department of Food and Textiles), and the National Food and Nutrition Committee (Nutritionists and Research Officer). A full description of the background and methodology used in constructing the 1997 FPL baskets is given in an unpublished paper of the Fiji Food and Nutrition Centre.[41]

The paper noted that Fiji's major ethnic groups have significant deep-seated cultural differences in diets[42] which made it necessary to have two separate food baskets- one for indigenous Fijians and one for Indo-Fijians. "Others" were assumed to consume the Fijian diet.[43] The consultative group therefore designed two sets of ethnically based "meal plans" for breakfast, lunch and dinner for a week, attempting "to follow closely their current eating patterns, while ensuring that their nutritional requirements are met at an affordable cost".

The meal plans were "designed for low income households with disposable incomes of less than $90 per week". They were intended to be suitable for both urban and rural households. Hence there were only two baskets of goods- one for each ethnic community.[44]

The meal plans were designed to supposedly meet the nutritional requirements of a family of five persons – two adults, one teenage child, and two children under the age of 14- in aggregate held to be equivalent to 4 "adult equivalents". But the paper noted "Since the aim of the exercise is to ensure that low income households acquire a nutritionally adequate diet, then the calculated costs may not be what they are currently allocating to their food budget, but what is needed to achieve this objective".

Assumptions built into the meal plans included the following: The adults were moderately active and not elderly; The weights of the adults were 65 kg (male) and 55 kg (female); and the children correspondingly[45]; Fijians and Indo-Fijian households had similar caloric needs; Food values were similar for raw edible portions (EPs) as for cooked portions; and the "average costs used would allow families to access a nutritionally adequate diet regardless of location (i.e. rural, urban etc)".

The nutritional requirements focused on energy, protein and fat. The energy requirement per day for the family of five was estimated to total 12,290 calories or 3,072 per Adult Equivalent. The percentage contribution of energy for Fijians was

[41] "Background and methodology for calculation of a costed diet plan for a Fijian and Indian Family of five". S. Seniloli.
[42] Hindus generally do not eat beef, while Muslims do not eat pork. Most ethnic groups eat chicken, lamb goat and fish, although a significant minority of Indo-Fijians are vegetarian.
[43] Note that the "Others" category in Fiji is far from homogenous. They comprise people of Chinese, European, Solomon Island and mixtures of these and other groups. HIES data suggests that the incomes and expenditures (including food expenditure) of Urban Others are quite distinct from Rural Others, who largely comprise persons of Solomon Island descent and mixed races.
[44] It will be shown below that this assumption is not justifiable for rural and urban Fijians, given the 2002-03 HIES results.
[45] It was noted that the weights were derived from the Western Pacific region, and while appropriate for Indo-Fijians, might not be suitable for indigenous Fijians who tended to be taller and heavier.

assumed to be derived from carbohydrates (70 percent), Protein (10 percent) and fat (20 percent), while for Indo-Fijians were 65 percent, 20 percent and 10 percent respectively, supposedly conforming to the "current eating patterns of the Fijian and Indian communities".[46]

With rural Fijian households having access to nutritious river based foods, it was thought that low income urban Fijian households might be "more vulnerable to poor diets" than those in the rural areas. The paper stated that "to ensure that the Fijian diet plan was realistic, a quick study of the meal patterns, food choices, and food budgets of low income urban households was undertaken by Public Health nurses in some known low income areas".

Table 3.2 The 1997 Fijian and Indo-Fijian FPL Baskets

Food	Item	Unit	Fijian	Indo-F
Roots	*Cassava*	Kg	17.0	
	Kumala	Kg	2.8	2.0
Cereals	Flour	Kg	2.1	
	Rice	Kg	4.1	6.2
	Bread loaf	400g	3.0	
	Noodles	85g Pkts	2.0	
	Sharps	Kg	2.8	8.2
Meat/Eggs	Fresh Fish	Kg	1.0	
	Mutton	Kg	1.8	
	Tinned Fish	425g	3	3
	Tinned Beef	340g	2	2
	Eggs	No	2	12
Fats and	Cooking Oil	Lt	1.0	2.0
	Butter	500g	0.25	
Vegetables	Coconuts	No	6	
	Rourou	Kg	1.5	
	Bele	Kg	1.0	
	Beans	Kg	0.5	2.2
	Chinese Cabbage	Kg	0.5	
	Baigan	Kg	2.1	0.4
	Tubua/churaiya	Kg	3.0	2.2
	Carrot	Kg	0.5	
	Pumpkin	Kg	1.1	
	Blue Peas	Kg	0.7	1.5
	Okra	Kg		0.5
	Dhal	Kg	1.1	2.1
	Tomato	Kg		0.5
	Cucumber	Kg		1.0
	Cabbage	Kg		1.5
	Onion	Kg		1.1
General	F/Cream Milk	Kg	1.0	1.0
	Sugar	Kg	1.0	0.56
	Tea (pkts)	200g	1	2
	Curry Powder	150g	1	2

Source: 1997 Fiji Poverty Report, Tables 1 and 2, pp 127, 128.

The FFNC paper stated that the actual FPLs ultimately settled upon were somewhat different from their findings of actual consumption patterns: "some improvements have been made in both the Fijian and Indian diets to ensure that they satisfied their nutritional requirements". It is unclear however, whether the "improvements" implied major or minor changes to the basket compared to actual consumption patterns of low income families.

[46] Note that if the baskets are based on actual consumption patterns there would not be any need to make assumptions about the sources of energy for the different FPL baskets.

The baskets of goods that comprised the two ethnic 1997 FPLs are given in Table 3.2, with items roughly classified into broad food categories. The range of items selected, while much better than that contained in the 1977 FPL, is still somewhat limited for both ethnic groups, but far more so for the Indo-Fijian diets, especially in relation to fresh meats and carbohydrates. The Indo-Fijian diet focuses on a large number of vegetables.

For Indo-Fijians, it appears quite unrealistic to have such large amounts of sharps, *kumala*, tinned fish and tinned beef. While these items may have been increased in order to improve the nutritional profile of Indo-Fijians, it would not make sense methodologically if low income Indo-Fijians simply did not consume those items to that extent, whatever the nutritional value. Equally importantly, items commonly consumed by the poor are missing from each food category: *dalo* (rootcrops), chicken (meat), and bananas/pawpaws (fruit).

The designers of the 1997 FPL assumed that rural households consume similar quantities compared to the urban households for both Fijians and Indo-Fijians. While the 2002-03 HIES results would support this assumption for Indo-Fijians, this is not so for Fijians.

3.4 The Cost of the 1997 FPL

The FPL baskets were then valued at urban and rural prices to give Rural and Urban FPLs for Fijians, and Rural and Urban FPLs for Indo-Fijians. Central Division prices were used to represent the "urban" prices, and an average of Western Division and Northern Division prices to represent the "rural" prices although this practice may be questioned. [47] The calculations for the aggregate cost of the FPLs for 1990 and 2002 are given in Table 3.3.[48]

In 1990, there was no difference in the cost of the FPL between rural and urban Fijians, and rural and urban Indo-Fijians. By 2002, a small difference had crept in, with the rural groups being some 2 percent and 4 percent lower for Fijians and Indo-Fijians respectively. However, in both 1990 and 2002, the Indo-Fijians FPL was significantly cheaper than the Fijian FPLs. In 1990, the difference was 11 percent for both rural and urban areas. In 2002, the gap had widened – with the Fijian diet being 13 percent higher in the urban areas, while 16 percent higher in the rural areas.

Note that the actual total dollar amount of the food baskets is a critical parameter in the calculation of the incidence of poverty. With the FPL being the largest component (usually over 60 percent) of the Basic Needs Poverty Line (BNPL), a higher value for the FPL will automatically put a larger proportion of the population below the FPL and BNPL.

[47] The items that are priced by the FIBoS in the Western and Northern Divisions are still by and large priced in establishments which are in the large towns or in settlements which are on the main highways.
[48] Throughout this monograph, any tables with no source indicated will have been derived by the author.

Thus having a FPL value which is 13 percent higher for Urban Fijians than Urban Indo-Fijians, and 16 percent higher for Rural Fijians compared to Rural Indo-Fijians, must inevitably place higher proportions of Fijians below the FPL, in both rural and urban areas. It is important therefore to examine whether having the particular food baskets in the 1997 FPLs with the dollar value relativities and totals given above, are justified by the 2002-03 survey data, or whether more appropriate FPL baskets may be called for.[49]

Table 3.3 Cost of 1997 FPL: (1990 and 2002)

	per 4 AE		p AE
	1990	2002	2002
Rural Fijian	56.97	79.43	19.86
Rural Indo-Fij	51.38	68.55	17.14
Urban Fijian	56.97	80.80	20.20
Urban Indo-Fij	51.38	71.53	17.88
Fijian:Indo-Fijian Cost ratios			
Rural	1.11	1.16	
Urban	1.11	1.13	
Rural:Urban Ratios			
Fijian	1.00	0.98	
Indo-Fijian	1.00	0.96	

3.5 Food Consumption Costs: the results of the 2002-03 HIES

Table 3.4 gives the Food Expenditure per AE pw[50] by population deciles.[51] By the very nature of the definition of the "Food Poverty Line", the expectation is that if households are consuming below the FPL values, then they are in some sense "in poverty". Table 3.4 indicates that on average, rural Fijian households do not appear to consume their FPL level (as defined by the 1997 FPL) until the 7th decile while urban Fijian households do not consume these levels until the 10th decile. Similarly, both Rural and Urban Indo-Fijians do not consume their standard FPL pAE until the 9th deciles. It would be difficult to argue that these upper households are in poverty.

Table 3.4 Food Expenditure pAE (2002 HIES)

PDec	Rur Fij	Urb Fij	Rur Ind	Urb Ind	All
PD 1	9.04	7.07	9.22	6.80	8.53
PD 2	12.94	9.28	9.22	8.93	10.62
PD 3	14.81	10.73	13.02	9.98	12.77
PD 4	16.59	11.35	10.06	10.86	13.01
PD 5	18.96	12.39	14.18	11.66	14.96
PD 6	18.45	13.67	13.61	14.76	15.56
PD 7	20.37	15.50	15.34	16.39	17.36
PD 8	22.19	18.11	16.13	17.68	18.99
PD 9	24.58	18.43	21.02	21.30	21.40
PD top	34.45	28.42	25.24	29.29	30.16
All	18.16	16.12	13.35	16.27	16.43

However, for a number of reasons, it is not correct to make simple comparisons between the pAE cost of the Food Poverty Line baskets which are designed for households of "standard" size i.e. 4 Adult Equivalents, and actual pAE average decile expenditures on food for each ethnic sub-group.

[49] The dollar value relativities of food baskets may be expected to change over time.
[50] This is inclusive of household expenditure on restaurants and pocket money.
[51] Each population decile has ten percent of the population. Earlier tables in the Report on the 2002-03 HIES used "household deciles" which would have tended to have more than 10 percent of the population in the lower deciles, and much less than 10 percent of the population in the upper deciles.

There is the obvious survey error possibility that the HIES is not picking up all the food that may be actually consumed by all the members of the households outside of the households, although expenditure of "pocket money" is assumed to be spent on food.

But there are at least three additional factors that need to be considered in assessing the adequacy of the food expenditure values given in Table 3.4 – importance of home consumption, economies of scale in food consumption, and vegetarianism.

3.6 The Impact of Home Consumption

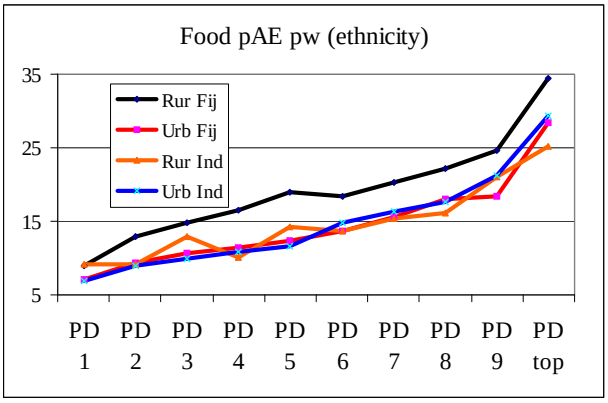
First, Rural Fijian households consume considerably more at all decile levels, compared to the Urban Fijians and Rural and Urban Indo-Fijians, with the latter three groups consuming quite similar amounts at each of the decile levels (Graph 2.1).

Part of the explanation is that households whose major income source is Home Consumption have much higher Food Expenditure pAE than those depending on other sources of income, because of their ease of access to home-grown food. Such households are a larger proportion of rural Fijian households.

3.7 Economies of Scale

Second, the differences between Rural and Urban Fijians are reduced once economies of scale associated with household size are taken into account (Annex 4). The data indicates that at the household size of 4 AEs, Urban and Rural Fijian households have about the same level of Food Expenditure per Adult Equivalent.

Graph 3.1 Food Expenditure per AE pw



Importantly, households of size 4 AE generally have higher Food Exp. pAE than their group averages: the difference is 13 percent for Urban Fijians, 10 percent for Urban Indo-Fijians, 5 percent for Rural Fijians and 1 percent for Rural Indo-Fijians.

Such differences exist for all quintiles. Annex 4 gives some basic data on economies of scale in unit food expenditure. This would suggest that for these sub-groups, a proper more accurate comparison of the cost of a FPL designed for 4 AEs, should be with decile averages which are adjusted upwards by these percentages.

3.8 Impact of Vegetarianism

Third, it should be noted that the 1997 FPL baskets (and the new revised ones) include meat, which is relatively more expensive than most vegetarian items. Groups which consume higher proportions of meat (and Fijians and Muslim Indo-Fijians

certainly do) will naturally have higher unit expenditures on food than is indicated by Table 3.4.

For Indo-Fijians, of whom significant proportions are vegetarian, the average food expenditure per AE is 5 percent to 8 percent higher for households of average size 4 AE at Quintile 2 than the overall average.

Annex 6 gives basic data on vegetarian unit costs in food expenditure as compared to "meat-eaters" unit costs. Food Expenditure pAE pw for vegetarians is some 28 percent less for Indo-Fijians and 40 percent less for Fijians on average.

3.9 The 1997 FPL Composition and that of Quintile 3 (2002-03 HIES)

For a particular FPL to be a useful standard for policy purposes (such as desirable levels of wages), the broad composition of the FPLs chosen should be reasonably close to what low income people would consume, were they to have adequate incomes.

It is important therefore that the FPLs should not depart significantly from the actual food consumption patterns of the reference group. It is useful therefore to compare the 1997 FPL with the results of the 2002-03 HIES for Quintile 3 (the middle 20 percent of the households)- given in Table 3.5.[52]

Quintile 3 is used as the reference group rather than Quintile 1, as the households in the latter are likely to be constrained in their food purchases because of poverty.

It may be readily seen by comparing Table 3.5 with Table 3.2 that the range of items in the 1997 FPL is quite limited for both ethnic groups in comparison to actual expenditures.

In the 1997 FPL, important elements such as *dalo* and potato are missing from root-crops, while relatively unimportant kumala is included. Rural Fijians consume far more fresh fish than the imported meats. Chicken is important in all the diets but is absent from the 1997 FPL. For Indo-Fijians there is a large amount of sharps in the 1997 FPL, while quite unimportant currently. Of course, it would not be practical to have all items in the FPL.

The real question is whether the items selected for the 1997 FPL still maintain the broad relativities amongst the major food groups as indicated by actual consumption patterns. Table 3.6 gives the shares of the broad food types in the 1997 FPL baskets and that indicated by the 2002-03 HIES.

[52] These have been scaled upwards to roughly match the total expenditures on food, but not adjusted for economies of scale or vegetarianism.

Table 3.5 Major items and Average Costs of Quintile 3 Consumption ($ per fortnight)

	Item	Rur Fij	Urb Fij	Rur Ind	Urb Ind
Rootcrops	Cassava	27.86	11.75	0.95	0.74
	Dalo	24.89	4.56	1.32	0.96
	Potatoes	1.33	2.78	4.46	4.46
Cereals	Flour	7.77	5.86	16.59	11.88
	Bread	4.22	7.95	0.92	2.01
	Cabin crackers	3.89	2.57	0.79	1.35
	Noodles	3.28	3.30		1.02
	Rice	6.79	6.08	11.88	14.23
Meats/eggs	Fish	21.88	11.81	6.18	3.87
	Chicken	4.65	9.67	8.08	13.88
	Beef	0.97	1.41	1.17	0.67
	Lamb	2.58	5.07	4.04	7.35
	Canned fish	2.35	1.22	1.58	1.34
	Canned beef	2.37	3.38		
	Eggs	1.21	2.44	1.05	2.21
Oils and fats	Butter	2.46	4.65	0.96	1.43
	Ghee			1.86	2.96
	Cooking Oil	2.73	3.50	9.42	7.10
Vegetables	Ota	0.75			
	Rourou	4.98	1.74		
	Bele	2.57	0.78		
	Coconuts	4.81	1.65	0.61	
	English cabbage	0.48	0.57	0.66	0.72
	Onions	1.02	1.25	3.08	2.88
	Chinese cabbage		1.07	1.06	1.56
	Tomatoes		0.54	1.14	1.16
	Tubua/Churaiya		0.54	1.32	1.04
	Dhal/besan		0.77	3.14	2.16
	Garlic		0.54	1.55	2.44
	Eggplant			1.64	1.26
	Beans			2.95	2.60
	Pumpkin			0.69	0.78
	Bhindi			1.22	1.34
	Chillies			1.32	1.20
Fruit	Bananas	3.18	1.27	0.62	0.74
General	Massala			0.60	
	Sugar	4.98	3.35	3.65	3.55
	Sugary items	1.95	3.83	6.02	7.35
	Tea	1.20	0.96	1.87	1.71
	Milk powder	2.15	4.05	5.16	7.95

Table 3.6 Proportion of Budget spent by Quintile 3 on Food Groups (1997 FPL, 2003-03 HIES)

	1997Food Poverty Line Basket				2002-03 HIES proportions			
	Rur Fij	*Urb Fij*	*Rur Ind*	*Urb Ind*	Rur Fij	Urb Fij	Rur Ind	Urb Ind
Root-crops	*19*	*18*	*3*	*2*	37	21	7	7
Cereals	*14*	*13*	*23*	*22*	16	25	33	34
Meats, eggs	*35*	*34*	*26*	*26*	19	25	16	17
Vegetables	*19*	*22*	*27*	*31*	13	12	23	22
Oils and Fats	*4*	*4*	*8*	*8*	3	8	9	10
General	*16*	*15*	*24*	*22*	5	5	8	9
Fruits	*0*	*0*	*0*	*0*	7	3	3	2
Total	*100*	*100*	*100*	*100*	100	100	100	100

Table 3.7 presents the differences in proportions of their total food budgets spent on the major food items. The top half gives the absolute difference in percentage points and the bottom half gives the proportionate differences.

Table 3.7 Absolute and Proportionate Differences: 2002 HIES – 1997 FPL

	Rur Fij	Urb Fij	Rur Ind	Urb Ind
	Absolute Difference in percent points: (2002 HIES – 1997 FPL)			
Root-crop staples	18	3	4	4
Cereal products	2	12	10	12
Meats, eggs	-16	-9	-10	-9
Vegetables	-6	-10	-4	-9
Oils and Fats	-1	4	1	2
General	-11	-10	-16	-13
Fruits	7	3	3	2
	Perc. Diff. (2002 HIES – 1997 FPL)/(1997 FPL)			
Root-crop staples	98	19	111	163
Cereal products	12	88	43	56
Meats, eggs	-45	-27	-39	-35
Vegetables	-32	-47	-16	-30
Oils and Fats	-29	90	8	24
General	-69	-64	-65	-59
Fruits	na	Na	na	Na

Rural Fijians consume far more root crops, and much less meats and eggs, vegetables and General condiments than is indicated by the 1997 FPL. And of course, fruit was significant for rural Fijians in 2002-03 (7 percent of their food budget) while totally absent from the 1997 FPL. Urban Fijians consumed far more cereal products and somewhat more of oils and fats than indicated by the 1997 FPL, much less meats and eggs, and less vegetables and less general items. Fruit was reasonably important.

Fruit, in the form of a wide variety of pickles would also be important for Rural Indo-Fijians, although the HIES may not have picked up this consumption as "fruit". For both Rural and Urban Indo-Fijians, cereal products were far more important, and fruit reasonably so in 2002-03. They consumed significantly less of meat and eggs, general items, and to some extent less vegetables as well than in the 1997 FPL basket.

Given that there are significant differences in the prices of meats, root-crops and cereals, the above significant departure of the 1997 FPL from the actual consumption patterns may be expected to have a significant impact not just on nutritional impacts but also on the overall cost of the FPL at various points in time, and hence also on estimates of poverty incidence. We therefore examine whether a revised FPL which more closely approximates the actual consumption patterns as indicated by the 2002-03 HIES, might result in a significantly different cost of the various FPLs, while meeting minimum nutritional standards.

3.10 Design of Revised 2002 Food Poverty Line Baskets

This was a joint exercise with the Fiji Food and Nutrition Centre Staff. Principles to guide the selection of items were as follows:

(a) The items selected ought to be important in the total food budget spent on them.

(b) The standard should not be set by the households clearly in poverty, for whom cheaper bulky items may be preferred to "fill the stomach" while more expensive but nutritious items may be compromised. Neither should reference be taken from the well-off households who may be expected to consume more expensive "luxury" items. A value judgment was made to use the third (middle) quintile as the reference group for relative amounts of consumption of the various foods.

(c) The baskets be as simple as possible and easy to operationalise using the prices that are normally collected by the Fiji Islands Bureau of Statistics.[53]

Table 3.5 gives the set of items which contribute at least 0.5 percent to the food budget sub-totals as indicated by the 2002-03 HIES. This table of values was presented to the Fiji Food and Nutrition Centre.[54] The FFNC concluded that the HIES results and the expenditures indicated by Table 3.5 were in line with their own recent survey results. The FFNC then designed meal plans for households of size 5 (4 AEs), utilizing the major items identified above, and keeping roughly with the relativities identified.

Table 3.8 gives the revised final baskets of foods for the four sub-groups. The nutrient co-efficients supplied by the FFNC and the foods and quantities in Table 3.8 were then used by the author to derive Table 3.9 of nutrient outputs associated with these FPL baskets.[55]

[53] The major changes were replacing items such as coconut cream (which is not normally priced by the FIBS) with whole coconuts, and replacing sausages (whose quality is difficult to assess) with pure meats.

[54] The staff involved were Ms Pushpa Wati Khan (dietician) and Ms Penina Vatucawaqa (nutritionist)

[55] These have been derived from The Pacific Islands food composition tables (second edition). USP (p 98) except for the sodium requirement which has been revised down to 600 mg (advice from Mrs Pushpa Khan (nutritionist, FFNC).

Table 3.8 Proposed 2002 FPL Baskets of Foods for family of 4 AE per week (gms)

Food Name	Rur Fij	Urb Fij	Rur Ind	Urb Ind
Cassava, peeled, boiled	11000	5000	500	500
Taro, common, white, boiled	6000	5000	500	500
Potato, pale skinned, peeled, boiled		1000	2000	2000
Biscuit, cabin, hard, Pacific Is.	1000	800	200	200
Bread, white, regular	1000	2000	500	1000
Flour, wheat, white, plain	6000	5000	8000	7000
Noodles, Maggi-type, boiled	100	100		
Rice, white, boiled	4000	4000	7000	8000
Reef Fish, composite, steam/poach	1500	1000	750	500
Chicken, curry without bones	250	500	500	500
Egg, chicken, whole, boiled (medium 32 gm)	202	404	404	404
Beef, minced	500	500		
Lamb, neck Chop, simmer,lean&fat		500	1000	1000
Mackerel, canned In Natural Oil	425	425	425	425
Beef, corned, canned	163	163		
Butter, regular	50	200	100	200
Ghee, butter			100	100
Vegetable Oil, polyunsaturated	500	500	1000	1000
Taro, leaves, cooked (*rourou*)	2000	1000		
Edible Hibiscus, leaves, boiled (*bele*)	2000	1000		
Fern, leaves, boiled (*ota*)	1000	250		
Coconut, flesh, mature, fresh	1500	500		
Cabbage, Chinese, cooked		250	250	250
Cabbage, European White, boiled	250	250	500	500
Eggplant, boiled	500	500	1000	1000
Tomato, ripe		500	1000	1000
Beans, green, boiled			1000	1000
Okra, boiled			500	500
Pumpkin, boiled			1000	1000
Onion, mature, boiled	250	250	1000	1000
Garlic, boiled		100	200	200
Peas, split, dried, boiled		250	2000	2000
Tubua/ churaiya			1000	1000
Banana, ripe	1000	1000	1000	1000
Pawpaw	1000	1000	1000	1000
Sugar, brown	750	750	750	750
Chilli, long, thin, boiled	50	100	200	200
Soft drink, cola		500	500	500
Jam	100	100	100	100
Milk Powder, whole	750	750	750	750
Tea, Indian, infused	50	50	100	100

It may be seen from Table 3.9 that all the key target nutrients are easily satisfied for all sub-groups, except for sodium. However, the FFNC indicated that the sodium target would be easily satisfied if salt were included in the FPL baskets.[56]

Rural Fijians enjoy the highest attainment of nearly all the nutrients. This is to be expected given that their diets have far more nutritious value – with a relatively heavier consumption of fresh fish, Fijian root-crops (such as *dalo*) and Fijian vegetables (such as *rourou, bele* and *ota*). Moreover, the relatively high value for energy would be quite appropriate given that their rural lifestyle would require more energy than that required by urban Fijians.

Table 3.9 Nutrient Content Per Adult of revised 2002 Food Poverty Line Baskets

	Requirements per adult	Rur Fij	Urb Fij	Rur Ind	Urb Ind
Energy	2200 k cals	2819	2406	2441	2489
Protein	55 gm (or 1 gm per kg)	77	72	80	77
Fat	Less than 65 gms	65	60	71	74
Carbohydrate	200 to 300 gms	492	404	379	389
Thiamin	1.2 ug	1.4	1.2	1.3	1.2
Riboflavin	1.3 ug	1.6	1.4	1.3	1.3
Niacin	16 mg	17	15	17	16
Vitamin C	45 gms	239	155	110	110
Vitamin A	600 units	1335	896	797	831
Retinol		179	260	247	278
b-carot-eq_ug		6924	3800	3291	3307
Sodium	920 to 3200 mg	778	969	536	637
Potassium	1950 to 5460 mg	4395	3184	2552	2540
Magnesium_mg	260 mg	912	619	278	280
Calcium	600 mg	1110	824	608	634
Iron	27 to 9 mg	21	14	11	11
Zinc	14 to 4.2 mg	6	7	8	8

Urban Fijians, with their greater consumption of the more "modern" foods, are relatively inferior in their nutritional intake, given that these FPL baskets have attempted to reflect their actual consumption patterns.

The FPL baskets for both Rural and Urban Indo-Fijians indicate relatively lower intakes of Vitamin C, Vitamin A, Potassium, Magnesium, Calcium and Iron.[57]

Using the same nutrient coefficients, the 1997 FPL basket was also evaluated for its nutritional values. Table 3.10 indicates that the 1997 FPL basket of foods was

[56] While the Fijian diet is rich in calcium (largely because of their heavier consumption of Fijian vegetables such as *rourou* and *bele)*, the Indo-Fijian diet is known by nutritionists to be poor in this nutrient.

[57] It should be possible use the 2002-03 HIES food expenditure data to draw up a national nutritional map of Fiji's households.

somewhat more generous than the 2002 FPL basket, especially for Fijians[58], and especially in energy and protein.

Table 3.10 Nutrient Values per AE per day (1997 FPL and 2002 FPL)

	Minimum Requirement	1997 FPL Fijians	1997 FPL Indo-F	2002 FPL Fijians	2002 FPL Indo-F
Energy	2200 k cals	3785	2512	2553	2377
Protein	55 gm	105	76	70	73
Fat	Less than 65 gms	170	97	54	67
Carbohydrate	200 to 300 gms	474	343	457	378

Table 3.11 gives the resulting costs of the 2002 FPL basket and the 1997 FPL basket, in 2002 prices. Significantly, the 2002 FPL baskets are cheaper in 2002 prices than the 1997 FPL baskets. Part of the explanation is that the latter used higher quantities of the relatively more expensive meats such as corned beef.

This result is somewhat unexpected. The usual trend is that when Food Poverty Line baskets are revised after a reasonable period (such as ten years), the costs would be expected to be higher since economic development would generally raise incomes and expenditures of the low income groups, and their preferences would shift somewhat to the more expensive items. This argument is probably not relevant here since we saw earlier that the 1997 designed FPL baskets was not particularly based on the 1991 HIES results, as are the 2002 Revised FPL baskets.

Table 3.11 Total 2002 Cost Per week of 2002 and 1997 FPL baskets of foods

	Rur Fij	Urb Fij	Rur Ind	Urb Ind
	Cost of 2002 FPL basket of foods			
Cost per 4 AE pw (2002)	64.41	63.55	63.12	63.13
Cost per AE pw (2002)	16.10	15.89	15.78	15.78
	Cost of 1997 FPL basket of foods			
Cost per 4 AE pw (2002)	*79.43*	*68.55*	*80.80*	*71.53*
Cost per AE pw (2002)	*19.86*	*17.14*	*20.20*	*17.88*
Perc. Diff (2002FPL-1997 FPL)/1997 FPL	**-19%**	**-7%**	**-22%**	**-12 %**

These differences are quite significant for the analysis of poverty. Use of the 1997 FPL baskets of foods would un-necessarily raise the cost of the FPL and the resulting BNPL, and thereby place higher proportions of the population sub-groups below the BNPL. The difference for Rural Fijians and Rural Indo-Fijians are quite significant. Clearly, the 2002 revised FPL baskets will have a significant impact on the estimates of the incidence of poverty in 2002-03, as well as in subsequent years if this revised basket is used to estimate the cost of the FPLs.

[58] The 2002 results used the average of the urban and rural values, since the 1997 FPR did not differentiate.

It may also be noted that the costs of the components of the 2002 FPL correspond fairly closely to the actual expenditures of the third quintile (ie the middle classes of both ethnic groups) as indicated by the 2002-03 HIES.

Also by a fortunate coincidence, the unit FPL costs pAE of the 2002 FPL are roughly the same (roughly $16 per AE pw) for all four sub-groups- by ethnicity and rural/urban distinction. This will help to minimise the concern expressed earlier about the use of different FPLs which are significantly different in monetary value, because of choices of different groups in what they wish to consume and the amounts, using the resources at their command.

The fantastic Suva market, full of nutritious local foods.... but neglected

Not only are the local foods more nutritious, but they keep down the cost of basic food items, while providing employment in rural areas, and helping in the utilisation of Fiji's land and marine resources.

It is a tragedy, therefore that, throughout Fiji, and none so evident as in the capital Suva, the markets for local food are generally in extremely poor condition, with lack of parking facilities, and ancillary facilities for farmers. Look at the torn flapping tarpaulins which rural farmers have to put up every week-end to protect themselves, and badly at that, from the vagaries of the weather.

Contrast this with the ideal conditions in most super-markets which facilitate the purchase of imported foods. Yet it is the local foods which have helped the poor people to cope with the high food price rises in 2008 for imported foods like rice and flour**.**

Yet successive governments continue to neglect this crucial aspect of public agricultural infrastructure which, by keeping down the prices of essential foods, also help so much in keeping down the incidence of poverty. Not to mention the enormous benefits in encouraging rural families to increase their agricultural production and remain on the land, rather than migrating to urban areas, with all the associated enormous problems that has brought the towns and cities.

Chapter 4

The Non-Food Poverty Line

This chapter sets out some alternative methods of estimating the second component of the Basic Needs Poverty Line - the Non-Food Poverty Line (NFPL). The NFPL at its most basic level is the monetary cost of the non-food essentials that are deemed necessary for a "standard" household to achieve the "minimum socially acceptable standard of living" in non-food items.

This section is importantl as the differences in values of the BNPL for rural/urban and Fijian/Indo-Fijian sub-groups are almost entirely due to differences in the sub-group values for the NFPL. These differences in BNPL will be shown in Chapter 6 to make a significant difference not just to estimates of the incidence of poverty, but also to ethnic shares of the Poverty Gap- a politically sensitive issue in Fiji.

This chapter therefore presents the commonly used methodologies of estimating the value of the NFPL, some of their associated weaknesses, and this study's preference for using actual values derived from the results of the 2002-03 HIES, to estimate values for decile 3 of the sub-groups. Because of the phenomenon of economies of scale in non-food expenditure, the values for decile 3 values have to be derived for households of size 4 AE, using economies of scale data for the bottom five deciles.

The typical elements of the NFPL comprise housing and household expenses, utilities, transport, education expenses for children, medical expenses, clothing and entertainment. To some extent some of the ethnic differences (for example in housing costs and education costs) may be explained by differences in state discriminatory public policy. Such state discrimination which is beyond the control of individual families (poor or otherwise) would clearly justify having different values for the NFPL.

However, some of the differences are due to cultural preferences, for example for kinds of housing or transport. An important issue on which this study is not able to throw any light, is the extent to which, at the same household income level, differences in expenditure on these "essentials" is due to "cultural preferences" as opposed to being a "necessary" expenditure.

There is some debate about alcohol and tobacco items which governments typical classify as "undesirable luxuries" (for revenue purposes) but which seem to be considered essential items of expenditure for many households. This study excludes these items from the NFPL calculations.

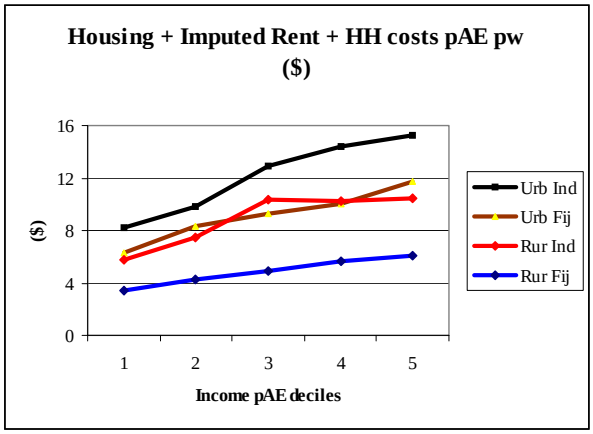
For ease of analysis, we refer to "standard" households. Note that those households which have "more costly" members such as children of secondary school age or tertiary education, would naturally have relatively higher non-food requirements such as for education and transport. If costs of secondary and tertiary education are considered as "essential" and not a luxury items, then the Non-Food Poverty Line

costs for families with children attending secondary or tertiary education would be far in excess of the values used here for the Non-Food Poverty Lines. This implies a significant downward bias in the NFPL and BNPL values for such families.

4.1 Why Different Non-Food Poverty Lines for Different Groups?

Keeping in mind the different items of essential non-food expenditure, we can partly justify different levels of NFPLs for the four different sub-groups for which we have developed separate Food Poverty Lines, simply because the different groups are likely to have different monetary needs in this regard. The rural:urban differentiation is easily understood, and is less contentious than the ethnic Fijian:Indo-Fijian differentiation within either the urban or rural areas.

Graph 4.1 Housing and Related Costs pAE pw ($)



Rural households understandably have different housing costs, because the rural and urban housing markets are quite different- usually more expensive in the urban areas. Graph 4.1 indicates that Urban Indo-Fijians are on the highest tier of housing related costs at all of the lowest first five deciles, while Rural Fijians are on the lowest tier.

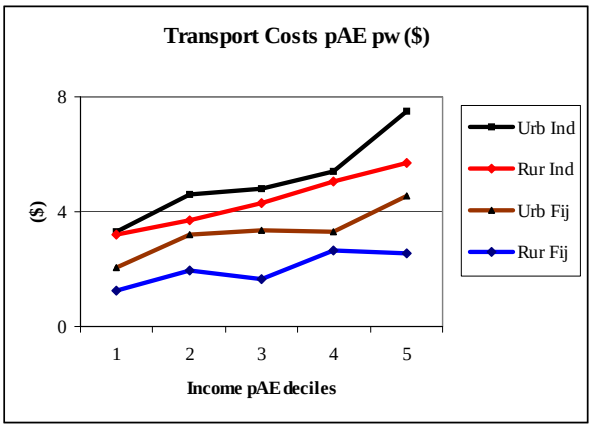
Urban Indo-Fijians (and Rural Indo-Fijians) are likely to have higher housing costs than Urban Fijians (and Rural Indo-Fijians) because, for the same income level, the former tend to live in better quality housing. Indo-Fijians tend to accumulate relatively faster because of stronger inheritance practices, there is strong community co-operation in building better quality housing, especially because of the relative abundance of carpentering skills.[59] Such better quality housing requires higher maintenance expenditure. Differences in housing costs may partly also be attributed to cultural preferences rather than "necessity". The other side of the coin is that a higher proportion of Fijian households than Indo-Fijian households in both rural and urban areas would be living in state subsidised housing, because of their superior employment opportunities with government and state enterprises.

With respect to transport costs, Graph 4.2 indicates that Urban Indo-Fijians are on the highest tier of costs, followed by Rural Indo-Fijians, Urban Fijians and Rural Fijians in that order. It may be noted that both urban and rural Indo-Fijians have a higher propensity to own vehicles than both Urban and Rural Fijians.[60] Again, there is an element of cultural preferences in explaining the differences in this item. Note that these aggregates of course hide a complex interaction of needs. For instance, while rural transport costs are indicated to be lower than urban costs, for many rural

[59] I am grateful to Dr Azmat Gani for pointing this out.
[60] Narsey, Wadan (2006b) p 86, Table 85 and Graph 22.

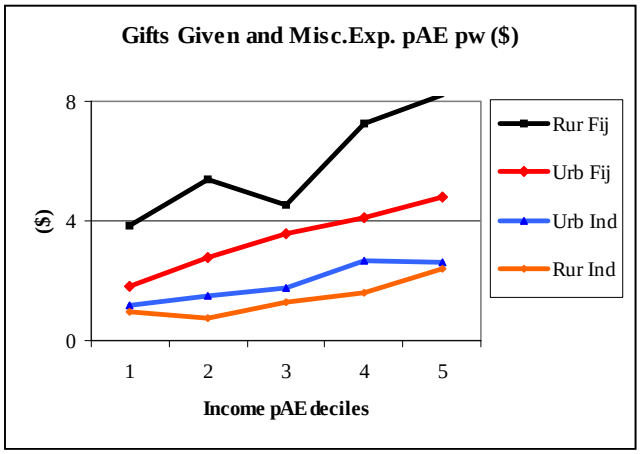
families, transport costs may be higher for workers and children who may need to travel longer distances by bus.

Graph 4.2 Transport Costs pAE pw ($)



It is critical to note that while the transport costs for indigenous Fijians are indicated to be extremely low, in large part this may also be explained by their inferior access to road infrastructure, which might allow them to have higher transport costs, either through owned vehicles and public transport or hired transport such as village carriers. There is a serious danger here that one of the fundamental causes of rural Fijian poverty (lack of access to rural transport infrastructure) may lead to a lower value for the NFPL and hence create a downward bias to estimates of the incidence of poverty and the Poverty Gap for this group.

Graph 4.3 Gifts Given and Misc. Exp. pAE pw ($)



Education expenses per child are generally higher for Indo-Fijian households than for Fijians, both in urban areas and rural areas (Chapter 8, Tables 8.13 and 8.14). Partly this may be so because Indo-Fijian children have not received the same degree of financial subsidies from Government as do Fijian children, and partly because of the heavier emphasis given by Indo-Fijian households to expenditure on education, both for children and themselves. Note however, that the Indo-Fijian cultural preference for emphasising expenditure on education is also partly due to decades of fear about the economic future of their children, in a national climate of perceived and actual discrimination in employment in government and state enterprises. For the rural Indo-Fijians there is also the continued failure of successive governments to find satisfactory solutions to the problem of expiring land leases.

Medical expense are also quite different for the sub-groups with poor Urban Indo-Fijians and Rural Indo-Fijians at the highest levels ($30 pc), followed by Urban Fijians ($16 pc pa), then Rural Fijians ($6 pc pa) (Chapter 8, Tables 8.15 and 8.16). Given their lack of access to hospitals, health centres and private doctors, Rural Fijians probably have higher recourse to traditional medicines than other groups.

Two major items of "expenditure" where relativities are reversed between both the ethnic and rural:urban groups are "Gifts given" where Rural Fijians give higher

proportion of their income than Urban Fijians, and Fijians in general also give more than Indo-Fijians. In Miscellaneous Expenditure also, Fijians have generally higher amounts than Indo-Fijians- in both rural and urban areas. Thus in aggregate, Graph 4.3 shows the much higher tier in this category of non-food expenditure for Rural Fijians, followed by Urban Fijians, with Urban and Rural Indo-Fijians much lower down.

The expenditure item "giving" raises an interesting question for this Chapter. With non-Fijians, giving is a matter of personal choice. For indigenous Fijians, however, a strong case can be made that historically, "giving" has been a "social norm" which is expected to be upheld at risk of social disapproval and ostracism. It should therefore be regarded as an essential item of expenditure for Fijians, although not for others.

For all these categories of expenses, different groups have different tiers of costs partly because they choose to place different emphases on these items of expenditure, rather than out of necessity. Thus some groups may socially prefer more expensive houses and household appliances. Some may place a higher premium on owning their own means of transport, hence their recurrent transport costs may be higher. Others may prefer to use traditional medicines rather than the more costly modern medicines. Some may prefer modern fuels such as LPG gas and kerosene, rather than cooking using open wood fires.

This chapter uses the 2002-03 HIES aggregate results for Non-Food expenditures, to give values for the NFPL which are significantly different between rural and urban groups, and between Fijians and Indo-Fijians. Box 4.1 explains the weakness in using different values for the NFPL.

Box 4.1 Justification for different values for the NFPL

There is every justification for using the different NFPL values in estimating the incidence of poverty for the different sub-groups where the differences in the NFPL values are due purely to "necessity". Most rural:urban differences may be explained thus, as well as some ethnic differences due to discriminatory state policies. There are also differences (especially in urban areas) in housing costs because Fijians have greater access to state-subsidised housing and education.

However, where the differences are due to cultural preferences (for instance between the different ethnic groups), then it is not justified to use the different NFPL values for estimating the incidence of poverty.

This study is not able to able to separate out the impact of the two sets of causes for differences in NFPL. Chapter 6 will therefore use both approaches to estimate the Incidence of Poverty and the Poverty Gaps: one using common values for the BNPL, and one using ethnically and regionally (rural:urban) differentiated values for the BNPL.

The two approaches give different results and implications for public policy. The "truth" will probably lie in between.

4.2 Calculating the NFPL/BNPL from the FPL: the multiplier methodology

It might be thought that the simplest method of calculating a value for the NFPL would be to take each of the essential components of non-food expenditure in the household, and place a price on them, for a household of standard size, then calculate the value per Adult Equivalent. This would involve pricing housing, education, transport, fuel, clothing and other essential costs. The process can however become fairly complex, especially given the great regional differences in prices.

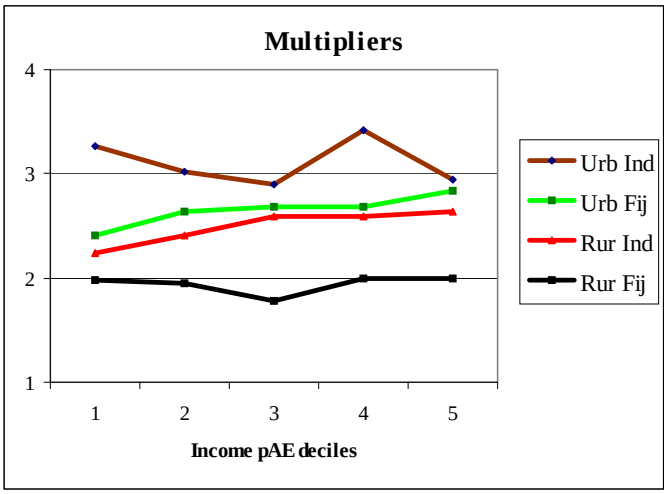
Stavenuiter (1983) and Ahlburg (1995, 1996) have previously used versions of a "multiplier" methodology. This approach is explained here in order to better understand the results (and errors) of the 1997 Fiji Poverty Report. The multiplier is based on the "Engel Coefficient", the ratio of Food Expenditure to Total Expenditure. The inverse of this coefficient becomes a "multiplier" to derive the Total Expenditure (or BNPL) that would be associated with a particular value of the Food Poverty Line.

Thus if Food Expenditure/Total Expenditure = r

Then the BNPL = (accepted FPL)* (1/r)

Usually, the ratio of Food Expenditure to Total Expenditure is higher for low income people. Table 4.1 gives the 2002-03 HIES values for Food Expenditure as a percentage of Total Expenditure, with the resulting multipliers on the right hand side of the table. A problem then arises- which should be the reference group whose proportion should be used to derive the multipliers required for estimating the BNPL?

Graph 4.4 Multipliers (by deciles)



It can be seen from the table and Graph 4.4 that at any decile level, the multipliers have very different values for the four sub-groups, corresponding to the very different proportions of Food Expenditure. Thus for the Bottom 3 deciles, the multiplier for Rural Fijians is 1.89 and for Urban Indo-Fijians is 3.02. The multipliers moreover generally rise as one goes up the deciles.

Different studies have used different reference groups to derive the ratios and the multipliers. Some have used the average food expenditure values for the bottom two or three deciles. Some have used the values for the second or third decile, the logic here being that these are the households which are on the borderline of poverty- hence their non-food expenditure must be on essentials.

Table 4.1 Food Exp. as perc. of Total Expenditures and Resulting Multipliers (2002-03)

Decile	Food as Perc. of Tot. Expenditure				Multipliers			
PAE	Rur Fij	Rur Ind	Urb Fij	Urb Ind	Rur Fij	Rur Ind	Urb Fij	Urb Ind
1	50	45	41	31	1.98	2.24	2.42	3.27
2	51	42	38	33	1.95	2.40	2.64	3.02
3	56	39	37	35	1.78	2.59	2.68	2.89
4	50	39	37	29	2.00	2.59	2.69	3.42
5	50	38	35	34	2.00	2.64	2.84	2.95
6	44	37	34	32	2.26	2.72	2.91	3.11
7	43	35	29	35	2.33	2.85	3.48	2.89
8	38	35	27	28	2.61	2.85	3.74	3.63
9	31	37	23	22	3.22	2.73	4.36	4.49
10	27	22	21	18	3.66	4.55	4.75	5.58
All	42	37	28	24	2.36	2.71	3.62	4.24
Bottom 3	53	42	38	33	1.89	2.40	2.60	3.02
Decile 3	56	39	37	35	1.78	2.59	2.68	2.89

The difficulty is that use of households on the lowest deciles would include households whose incomes are so constrained that their more fundamental requirements for food expenditure necessitates a curtailment of essential non-food expenditure.

Another approach attributed to Ravillon (Abbott, 2006) derives the multipliers from a range of households whose income is just equal to the accepted value for the FPL. The argument here is that whatever these households are spending on non-food items MUST be on essential items. Using this method in the Fiji case would however take reference from households which are in the bottom ten percent (lowest decile) of the

Box 4.2 A fundamental weakness of the multiplier methodology for Fiji

The multiplier is derived from (is the inverse of) the ratio of what households actually spend on food, and their total expenditure. If the ratio is a third, then the multiplier is 3 and the value of the BNPL is equal to 3 times the value of the FPL.

What households spend on Non-Food may well be the minimum essential expenditure on non-food items. If however, the FPL happens to be way out of line with what the reference household group actually spends on food (usually the FPL is higher than what the poorest people actually spend), then the multiplier applied to the higher FPL must inevitably result in a BNPL which is way above the actual Total Expenditure of the reference households. On the other hand, if the FPL is way below what households actually spend on food, then the derived BNPL would then tend to be on the low side.

In either case it seems inappropriate to use a multiplier derived from actual expenditures on food, on the idealised Food Poverty Line, to derive the BNPL that would represent the idealised Cost of Basic Needs Total.

country. Almost certainly, these households are deeply in poverty, and would already be curtailing expenditure on non-food essentials. It would not therefore be reasonable to use this method to derive the necessary multipliers. Box 4.2 explains why it would not be suitable in the Fiji context to use the multiplier methodology on the Food Poverty Line values that have been calculated in Chapter 3.

4.3 Alternative Method for Deriving the NFPL for households of size 4 AEs

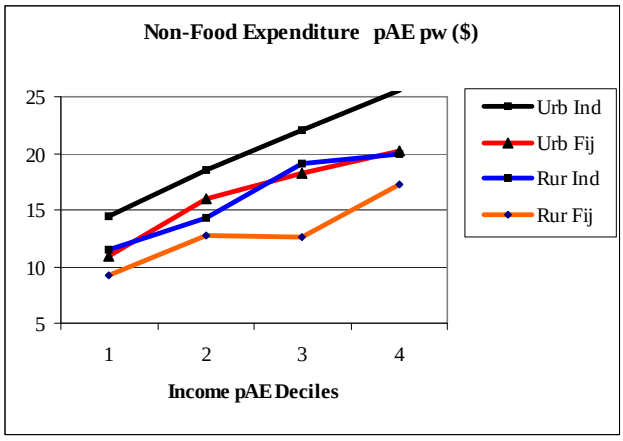
An alternative method suggested here is to use the actual 2002-03 HIES values of NFPL pAE for an agreed upon reference group. Since the focus is on "essential" non-food expenditure, the reference groups ought to be those whose incomes are low enough that they are unlikely to be indulging in purely personal tastes (as opposed to more strongly rooted social values) for un-necessary items, in their non-food expenditures, but not so low that they curtail their Non-Food expenditure just to satisfy their food requirements.

The reference group chosen by this study is the population in Decile 3. Any average Non-Food expenditure pAE pw estimated for this group would effectively be taking reference from the household containing the 25 percent person from the bottom of the distribution. This persons in this notional household are not absolutely "poverty stricken" and neither are they "well-off". Their expenditure on non-food items could be reasonably considered to be "essential" rather than luxuries.

As with the Food Poverty Line, these Non-Food unit expenditure values be estimated for households of size 4 AE. The data indicates that even in low income households, there is clear evidence of economies of scale in non-food consumption expenditure. For some sub-groups, for example rural and urban Fijians, the decile 3 average in general, is significantly lower than the decile 3 average for households of size 4 AE (Table 4.3).

This method clearly introduces an element of "relative poverty" in that over time, the amounts spent on non-food items by the people in decile 3, would tend to change (usually upwards). Both would be regarded as moving standards, in much the same way as the "relative standard" obtained by setting the poverty line as 50 percent or 60 percent of the median household's income.

Graph 4.5 Non-Food Exp. pAE pw (deciles 1 to 4)



However, this method itself has the weakness in that should the population become substantially poorer, then even Decile 3 may fall well below the poverty line. And conversely, should the population become better off, Decile 3 may rise above the poverty line. Using the NFPL of Decile 3 effectively would be choosing a "moving" standard of the third decile- regardless of its state of poverty.

It can be seen that all these methods have their strengths and weaknesses. It is suggested here that rather than asserting the correctness of any one methodology, it would be more useful to examine the incidence of poverty using the different methods suggested above, as well as make available the data in a form that poverty stakeholders can use with their own values for the BNPL.

Table 4.2 Non-Food Expenditure pAE pw

Dec pAE	Rur Fij	Rur Ind	Urb Fij	Urb Ind
1	9.28	11.49	10.90	14.39
2	12.70	14.31	15.93	18.58
3	12.59	19.06	18.22	22.10
4	17.21	19.97	20.23	25.63
5	19.02	22.17	23.84	29.50
6	25.19	24.16	29.30	36.82
7	27.28	31.98	41.94	41.42
8	39.74	31.97	49.71	54.51
9	55.00	43.29	67.56	74.91
10	99.09	80.60	115.43	129.73
All	24.68	22.79	42.16	46.60
D3 Av.	14.16	17.82	17.40	22.04

It is recommended that different NFPL levels be used for the same sub-groups as are differentiated for the FPLs- rural and urban Fijians, and rural and urban Indo-Fijians. However, it is also important to understand what the poverty results would be like, were common values be used for the FPL, NFPL and BNPL. Both sets of results are given in this study.

Table 4.2 gives the NFPL values[61] by deciles, which indicate a slow rise for the first seven deciles, after which there are sharp increases for all the sub-groups. Graph 4.5 indicates the values for the first four deciles which are more relevant for poverty analysis. Essentially there are three tiers with Urban Indo-Fijians at the top, Rural Fijians at the bottom, and Rural Indo-Fijians and Urban Fijians having a somewhat similar profile.

Table 4.3 Non-Food Expenditure pAE pw for Deciles 1 to 5 (by Household Size in AEs)

HH size (AEs)	Rur Fij	Urb Fij	Rur Ind	Urb Ind
2.5	16.55	21.93	15.85	20.30
3.0	15.86	19.73	16.69	21.92
3.5	14.83	19.34	15.16	20.94
4.0	16.87	18.76	16.29	20.89
4.5	13.67	17.02	13.65	20.96
5.0	14.09	16.04	18.13	27.48
5.5	13.47	18.12	14.87	19.35
All hh sizes	13.05	17.15	15.98	21.64
Regr. est. for 4 AE	15.05	18.71	15.80	21.69
Perc. Diff	15	9	-1	0

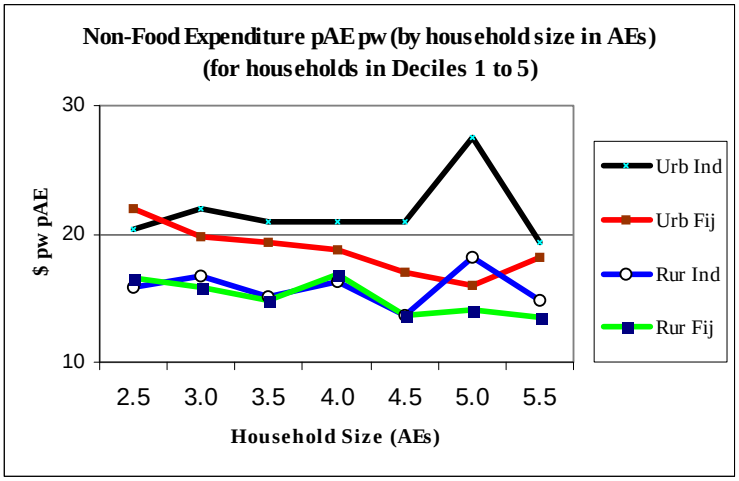
If the NFPL pAE values for Decile 3 are derived using regression analysis the values would be as given in the last row of Table 4.2. These are the NFPL values which have been used previously in estimating the incidence of poverty and Poverty Gaps. These values are not strictly correct as they do not take account of the phenomenon of economies of scale in unit Non-Food expenditures, which effect is quite significant.

[61] The NFPL values given here are exclusive of alcohol and tobacco expenditures.

Table 4.3 indicates that the regression estimates[62] for households of size 4 AE for all households in Deciles 1 to 5[63], are quite significantly higher than the average values for households of all sizes, for Rural Fijians (by 15 percent) and by 9 percent for Urban Fijians. The impact on Indo-Fijian values are negligible. These results are to be expected since the average Fijian household size is around 5, while the average Indo-Fijian household size is just over 4.

Graph 4.6 gives the relativities adjusting for household size. While the Urban Indo-Fijian curve is on the top tier (and indicates little economies of scale), the other three lines all do. The Urban Fijian curve is now above the other two and just lower than the Urban Indo-Fijian curve.

Graph 4.6 Non-Food Expenditure pAE pw for Deciles 1 to 5 (by household size in AEs)



Interestingly, there is virtually no difference between the curves for Rural Indo-Fijians and Rural Fijians until one gets to household size 5 AE.[64] Thus allowing for economies of scale effectively moved up the curve for Rural Fijians to equality with Rural Indo-Fijians. Thus these relativities are somewhat different from that indicated in Graph 4.5, especially for Rural Fijians.

Table 4.4 gives the NFPL pAE values which will be used in Chapter 6 for estimating the incidence of poverty and Poverty Gaps for the four sub-groups.

The data indicates that for both Fijians and Indo-Fijians, the urban:rural differences are quite large as would be expected. The ethnic difference in rural areas is however a fairly small 5 percent, although in urban areas, Indo-Fijian NFPL is higher than that of Fijians by some 16 percent.

These significant differences in the values for the NFPL for the different sub-groups, will naturally translate into differences in the values for the BNPL, and hence have an impact on the estimates of incidence of poverty and the Poverty Gaps.

Table 4.4 NFPL pAE pw at HH Size 4 AE and Perc.Dfferences (Rural:Urban and ethnic)

	NFPL pAE pw at HH Size 4 AE		Perc. Diff
	Fijians	Indo-F	
Rural	15.05	15.80	5
Urban	18.71	21.69	16
Perc. Diff	24	37	

[62] Linear regression lines fitted through the seven data points for each sub-group will pass through the mean values, for each sub-group, at household size of 4 AE.
[63] Averaging the results for Deciles 1 to 5 irons out the statistical fluctuations at each decile level, and effective gives the values corresponding to the middle of Decile 3, or the 25th percentile person.
[64] For both Urban and Rural Indo-Fijians there appears to be an odd peak at household size 5 AE.

If it is intended to examine how poverty has changed over time, then obviously it would be necessary to use the same methodology that was used in earlier studies, whose results can then be meaningfully compared to the current results.

This study, where possible, also provides the reader with a matrix of data with estimated values for the incidence of poverty associated with a range of possible values for the BNPL, so that stakeholders can easily estimate, using simple arithmetic, the incidence of poverty for any level of BNPL they choose to use.

Given that there are significant economies of scale in both food and non-food expenditure, ideally, there should be different FPL, NFPL and hence BNPL calculated for each household, relevant to its household size.

Some large households classified as "poor" may not be poor, while some small households classified as "non-poor" may well be poor. Given that the different ethnic groups have different distributions by household size (Fijian households tend to be larger than Indo-Fijian households), then a general surmise may be that the estimates for incidence of poverty should reduce somewhat from the current results for Fijians.

Box 4.3 Justification for also using common ethnic values for the NFPL to derive alternative estimates of poverty incidence and Poverty Gaps

We have justified using different Non-Food Poverty Lines for Rural and Urban areas because there are very large differences in market costs for items of expenditure such as housing. However, within both rural areas and urban areas, there are significant ethnic differences, some of which may well be explained by cultural preferences.

Thus Indo-Fijians generally have more expensive housing, which requires more maintenance. They also tend have greater ownership of cars, hence the transportation costs are higher. Indo-Fijians also have better connectedness to electricity and water.

Indo-Fijians tend to place a higher value on expenditure on education and are able to spend more, since their financial contributions to their community are not as onerous as for indigenous Fijians and the generally have fewer children. Indo-Fijians, certainly in recent years, are far more likely than indigenous Fijians to resort to modern, and hence more expensive medicine, while indigenous Fijians often use traditional medicines which are less costly.

It is important therefore, that while it is universally accepted that the incidence of poverty for different groups need to be calculated with differentiated Basic Needs Poverty Lines (and this study gives primary attention to these estimates), it is also important to examine what the incidence of poverty results would be, were <u>common dollar values</u> to be used for the BNPL for all groups.

This study gives parallel poverty incidence and Poverty Gap estimates using both approaches.

Chapter 5

The Historical Analysis of Poverty in Fiji

Stavenuiter, Ahlburg and the 1997 Fiji Poverty Report

It is inevitable that any current analysis of poverty will be referred back to the findings of the 1997 UNDP Fiji Poverty Report (1997 FPR).[65] That Report based many of its conclusions about the incidence of poverty on the analysis of the 1990-91 HIES by Dennis Ahlburg (1995 and 1996). Ahlburg's studies in turn took their bearings from an earlier analysis by Stavenuiter (1983) of the poverty situation prevailing in 1977, using the results of the 1977 HIES.

Comparisons of poverty rates over time are fraught with difficulties. The World Bank (2005, p 84) points to a number, including sampling error, measurement error, uncertainty and arbitrariness about poverty lines used. There is of course also the difficulty in comparing over time if components of the poverty line are not perfectly absolute (which can allow their use at different points in time). Since the CPI bundle of goods and services is much broader than any bundle that will represent the basic needs bundle, then adjustment by the CPI may not reflect the true changes in the cost of living for the poor.

The problem is compounded in that there seem to have been a number of errors in the analyses by Ahlburg (1995 and 1996). Some of these errors were then perpetuated in the 1997 FPR with incorrect comparisons being made with Stavenuiter's results for 1977. The 1997 FPR also seems to have erroneously interpreted some of Ahlburg's tables, while ignoring others which may have been more relevant.

Annex 1 gives a brief summary of the errors and misrepresentations in the 1997 Fiji Poverty Report and the Ahlburg studies, which are not covered in this chapter.

This chapter gives a summary of the methodology used and the poverty findings of Stavenuiter (1983) and Ahlburg (1995, 1996) as well as that of the 1997 Fiji Poverty Report. It is important to understand the findings as well as the limitations of these studies, for a better understanding of the approach taken by this study and its findings.

5.1 Stavenuiter's 1983 Analysis and Results for 1977

Stavenuiter's analysis used Food Poverty Line values, and multipliers to derive the Basic Needs Poverty Lines for 1977 (Table 5.1). Using these BNPL values, his resultant estimates for the percentage of households below the poverty line were: 15 percent nationally, 11.6 percent in urban areas, 19.6 percent in "settlements"[66] and 21.4 percent in villages (Table 5.1).

[65] This Report (April 1997) was jointly published by the UNDP and Government of Fiji.
[66] Settlements comprised mostly rural Indo-Fijian households (but not exclusively), while villages comprised mostly rural Fijian households (but not exclusively).

The methodology behind these results needs to be examined critically, for a better understanding of the errors in Ahlburg's studies (1995 and 1996) and the 1997 FPR.

First, the Fiji National Food and Nutrition Committee had given Stavenuiter a range of values ($24.36 to $32.80) which they estimated would purchase a "basic nutritious diet" in May 1980 for "a family of average size and composition". We have noted previously that this diet was quite limited in its range.

Table 5.1 Stavenuiter's Poverty Results for 1977

	FPL ($) per hh pw	Food as Percent. of Total Expend.	Multipiers.	BNPL ($) Per hh pw	Perc. Of households in poverty
National	18.77	66	1.52	28.45	15.0
Urban	18.77	55	1.81	33.95	11.6
Settlement	18.77	64	1.56	29.37	19.6
Village	18.77	76	1.32	24.71	21.4

Source: Table 2.15, Stavenuiter (1983)

Stavenuiter took the lower figure of $24.36 and deflated it by the movement in the Fiji CPI to 1977 prices to obtain a FPL value of $18.77. This same FPL value was then used for all ethnic groups. Multipliers were then used for different sub-groups (not ethnically differentiated) to derive different BNPLs, and hence the incidences of poverty for the different sub-groups. There were several problems with this approach.

Had Stavenuiter used the mid-point of the range or the higher value of the full range of values given by the FFNC, his eventual estimates of percentages in poverty would have been significantly higher than the results he derived.[67]

For instance, had Stavenuiter used the mid-point of the range, the FPL would have been around $22.02 and the eventual BNPL would have been about 17 percent higher, and the incidence of poverty correspondingly higher (probably by more than 17 percent). Had Stavenuiter used the top of the range, the FPL would have been $25.27 and the eventual BNPL would have been 35 percent higher (again significantly raising the estimates of the incidence of poverty).

Second, it would seem that Stavenuiter used 6 as the household size. The 1997 FPR (p 40) and Ahlburg (1996, p 37) noted that (Cameron 1983) had stated that Stavenuiter had used a household size of 6.[68] If this was so, then the 1991 FPL should have been adjusted upwards (perhaps by as much as 25 percent) to correspond to the household size used in 1977.[69]

The effective under-estimation of the FPL and BNPL by Stavenuiter may be seen if the 1991 Ahlburg values for the FPLs and the BNPLs are deflated back to 1977 values using the CPI. Table 5.2 suggests that the 1977 BNPL values comparable to those used for 1991 would have been 24 percent higher for All Fiji, 12 percent higher

[67] This was also noted by Ahlburg (1995, p37) but the observation was left out of the 1997 FPR.
[68] Ahlburg (1995, p 34) states that Stavenuiter had derived FPL values for a household of size 6.
[69] For instance, a household of 3 adults, 1 teenager and 2 children would convert to 5 Adult Equivalents, or 25 percent bigger than the standard of 4AE used in the 1997 FPR.

for Urban areas and 30 percent higher in Villages. The results for the incidence of poverty for all groups would naturally have been correspondingly higher.

It may be noted that the multipliers which convert the FPL to the BNPL in Table 5.1 above are the inverse of the second column which gives Food as a Percentage of Total Household Expenditure. These latter percentages were apparently calculated by Stavenuiter from regressions of "Percentage of Food Expenditure" on "Total Expenditure", for households (nationally, urban areas, settlements, and villages) ranked by Expenditure per Adult Equivalent (rather than Income per AE or Income pc as done by the 1997 FPR.[70] It is unclear whether the ranking method could have made a significant difference to the results.[71] The regression results were then used to derive the BNPLs but the Report is unclear how exactly the BNPLs were derived for the FPL of $18.77, using the regression co-efficients.[72]

Third, it would seem that Stavenuiter used adjusted incomes for his calculation of poverty incidence, rather than reported incomes.[73] The adjusted incomes were significantly higher than the reported incomes, and hence his incidence of poverty would have been correspondingly lower, although it is unclear what was the estimated extent of under-reporting by the lower deciles. It should be noted that both Ahlburg's analysis and the 1997 FPR using the 1990-91 data, and those using the data from the 2002-03 HIES, use reported incomes, without any adjustment for under-reporting.

Table 5.2 Comparison: 1991 and 1977 BNPL

	BNPL 1977 (Stavenuiter)	1991 BNPL adj. by CPI back to 1977	Perc. Diff.
National	28.45	35.41	24
Urban	33.95	37.95	12
Settlement	29.37	28.99	-1
Village	24.71	32.11	30

For the above reasons, great caution must be exercised in making comparisons between the results on poverty incidence in 2002-03, with those for 1991 results and with Stavenuiter's 1977 results.

5.2 Ahlburg's departures from Stavenuiter's Methodology

Ahlburg's 1995 analysis was based on the results of the 1990-91 HIES conducted by the Fiji Islands Bureau of Statistics. At the time, the Bureau's assessment of the HIES results was that the results were too inconsistent for a Report to be published.[74] Ahlburg apparently had the data "statistically adjusted" so as to make the data set usable for his poverty analysis.[75] It is unclear what the statistical adjustments were,

[70] Linear regressions were used to estimate the values for BNPL given the FPL of $18.77 per hh pw.
[71] Stavenuiter noted that ranking by Expenditure per AE results in households of more uniform size than either ranking by Household Income (which has larger households at the top deciles) or Income per capita (which has smaller households at the top deciles).
[72] The regression coefficients given in the Stavenuiter Report do not lead to the stated values for the BNPL. The author's own regression of Total Expenditure on Food Expenditures for the first six deciles (R squared of 0.997) gives co-efficients which result, for a FPL of $18.77, in a national BNPL of $26.02 rather than the $28.45 given in Stavenuiter's Report.
[73] Stavenuiter (1983), Table 2.15, p.48.
[74] Households were unwilling to give data to "government" officials, so soon after the 1987 coups.
[75] The FIBoS does not have any documentation about the statistical adjustments made nor the final data set used for the poverty analysis.

and whether the statistical adjustments were serious enough to significantly affect the results.[76]

Table 5.3 Food as Percent of Total Exp. (1977)

Exp pAE Deciles	Urban	Settlement	Village	Fiji
1	58	68	80	74
2	53	64	76	67
3	53	59	76	60
4	50	56	74	59
5	48	55	71	55
6	44	51	69	53
7	40	49	72	49
8	40	46	66	44
9	36	41	66	42
10	24	32	60	29
All	40	46	69	46
Av.Bot.2	56	66	78	71
Av.Bot.3	55	64	78	67

Source: Table 2.12 (Stavenuiter, p 40)

Ahlburg (1995, p 32) observed that the BNPL may be derived from the FPL by using a multiplier which is "usually the inverse of the fraction of income or total expenditure spent on food by the bottom 20 percent of households or individuals".

Ahlburg noted that with a FPL of $18.77 Stavenuiter derived a BNPL of $28.45 stating "since the average household spent 66 percent of their total expenditure on food". Ahlburg also stated (ibid) "Stavenuiter found that urban households spent 55 percent of expenditure on food, settlement households 64 percent, and village households 76 percent, yielding estimated multipliers of 1.52 for the nation, 1.82 for urban areas, 1.32 for villages, and 1.56 for settlements".

Table 5.4 Food as percent of Total Exp. (1977, 1991 and 2002)

Deciles Exp/Inc	1977 HIES	*Est. 1991*	2002 HIES
1	74	*57*	45
2	67	*53*	43
3	60	*50*	44
4	59	*48*	40
5	55	*46*	40
6	53	*43*	36
7	49	*40*	34
8	44	*36*	31
9	42	*32*	26
10	29	*24*	21
All	46	*38*	32
Av.Bot.2	71	*55*	44
Av.Bot.3	67	*51*	40

Source: Stavenuiter (1983) and 1997 FPR

While the 1977 multipliers quoted are correct, Ahlburg's interpretation of the proportions of food they were based on, was not correct. Ahlburg himself had stated "In 1990-91, the average household in Fiji spent 55 percent of expenditure on food, urban and settlement households 52 percent, and village households 60 percent"[77] [my emphasis]. This statement was also repeated by the 1997 FPR (p 34).

Table 5.4 gives the percentages of food in total expenditure for 1977 and 2002[78], and estimates for 1991.[79] Clearly, the national average of 55 percent referred to for 1991 is not consistent with the national averages of 46 percent in 1977 and 32 percent in

[76] A 1991 data set in the Bureau gives results significantly different from the Ahlburg results.

[77] Ahlburg noted that the national estimate "is almost identical to those found by Bryant (1993:67) and Fiji Poverty Taskforce (1991). It is likely that all these percentages are for low income households, and not national averages as is claimed.

[78] The deciles in 2002 are ranked by Income per AE, while those for 1977 were ranked by Expenditure pAE. The ranking method should not make any difference to the overall averages, and perhaps only slight differences to the averages for the bottom 2 or 3 deciles.

[79] These have been derived by annual linear intrapolation between 1977 and 2002.

2002. It is likely that the 1991 percentages quoted by Ahlburg refer to those for the bottom 2 deciles (which is roughly 55 percent).

There is then a critical jump in Ahlburg's analysis with profound implications for the calculation of the values for the Basic Needs Poverty Line. Ahlburg (1996, p.36) noted that "These estimates yield larger multipliers, that is, a larger allowance must be made for expenditures other than food than was the case in 1977. This is to be expected as incomes rise with development. To facilitate comparison with Stavenuiter's estimates of poverty, his multipliers were adopted to establish the national poverty line and separate poverty lines for each area" (my emphasis).

These two important sentences from Ahlburg (1996) were left out of the 1997 Fiji Poverty Report, while Ahlburg's resulting (and erroneous) calculations of the Basic Needs Poverty Line were accepted.

The logic in the second sentence ('to facilitate comparison with Stavenuiter's estimates of poverty") appears reasonable at first glance but is not. The decision was not only a major methodological change from what was followed by Stavenuiter for 1977, but an incorrect procedure.

The multipliers used to convert the FPL to the BNPL are not fixed over time- they need to change to reflect the reality that as the incomes of low income people rise, they tend to devote smaller proportions of their expenditure for food and more for non-food items. Their basic needs and the associated BNPL must therefore rise with economic development and improvement in incomes for the lower income households.[80]

Had Ahlburg accurately followed the Stavenuiter methodology, his values for the BNPL in 1990-91 would have been much higher than those he used.[81] So also would have been his estimates of the incidence of poverty. For instance, if the food percentages for the Bottom 2 deciles in 1991 had indeed been 55 percent, then his national multiplier would have been 1.82, some 20 percent higher than the 1.52 that he used. By using the same multipliers as used in 1977, Ahlburg effectively reduced the values of the BNPLs, and hence the proportions of the population eventually found to be "below the BNPLs".

The 1997 Fiji Poverty Report continued Ahlburg's error. It stated (p 34) "According to the HIES, in 1990-91, households in Fiji spent around 55 percent of their income on food, an amount which was slightly lower in urban and settlement households (52 percent) than it was in rural villages (60 percent). The basic needs poverty lines and the percentage of households with incomes less than that are shown in Table 16."

The implication from reading the 1997 FPR would be that that the food percentages derived from the 1991 HIES were used to derive the multipliers to calculate the values for the BNPLs.

[80] The opposite might indeed be an indicator of worsening standards of living.
[81] Ahlburg (1996, p 36) added the phrase "These poverty lines are conservative estimates …".

But there was no mention at all in the 1997 FPR of Ahlburg's explicit statement that were the 1991 HIES food percentages to be used, the multipliers would be higher. There was no mention of Ahlburg's statement that he chose to use Stavenuiter's 1977 multipliers, rather than the more relevant multipliers derived from the actual food percentages prevailing in 1991.[82]

5.3 The confusion of "households" and "population" in poverty

One of the strange mistakes made in the transition from the drafts by Ahlburg to the 1997 Fiji Poverty Report was that Ahlburg's tables for percentage of households in poverty were then labelled in the 1997 Fiji Poverty Report as percentage of population in poverty.

Table 5.5 Perc of Households or Population?

	Ahlburg 1996	1997 FPR
	Basic Needs Poverty Lines	
All	82.92	83.00
Fijian	92.63	92.63
Indian	97.34	97.34
Others	92.63	92.63
	Perc. Below BNPL	
	Households	Population
All	24.26	25.5
Fijian	27.62	27.7
Indian	33.41	31
Others	25.82	27.6

Table 5.5 gives the different BNPL values which were used in the two Ahlburg drafts and the final BNPL values used in the 1997 FPR.

Table 19 of the two Ahlburg drafts (1995 and 1996) gave estimates of the percentage of households in poverty based on income. In the 1997 FPR (Table 16, page 34) the title was changed to "percentage of the population earning less than the poverty line".

This number of "25 percent" in poverty, which has been quoted for more than a decade, would seem to be incorrect for several other reasons. The national estimates of both the BNPL values and the incidence of poverty (percentage of households) were simply statistically inconsistent, the result of a basic methodological error. And it would seem that the 1997 Fiji Poverty Report ignored the far more relevant tables that Ahlburg had on the incidence of poverty adjusting for household size.

[82] An interesting question remains: did Ahlburg and the authors of the 1997 FPR choose to use multipliers in order to give lower values for the BNPL and lower estimates of the incidence of poverty? And why did the 1997 FPR leave out the critical jump in Ahlburg's methodology?

5.4 The Statistical Anomalies

Table 5.6 gives Ahlburg's and the 1997 FPR's FPL and BNPL values for All Fiji, Fijian, Indian and Others as well as Ahlburg's calculations for the incidence of poverty.[83]

The national value for FPL ($54.55) is statistically consistent with the ethnic values for Fijians, Indians and Others: the national FPL is roughly the population weighted average of the Fijian, Indo-Fijian and Others FPL values.[84] However, the values given for the BNPLs (and the associated incidences of poverty) are quite inconsistent.

While the Fijian BNPL is $92.63 and the Indo-Fijian figure is $97.34, the national BNPL value is given as a much lower $83.00, and the national incidence of poverty (universally quoted) is consequently also given as a much lower 25 percent[85].

There is a clear way of understanding the inconsistency of the national BNPL value of $83.00 and the resulting national incidence of poverty. Ahlburg's estimate of the national percentage of households or population in poverty would be to classify all households with incomes above $83.00 as not being in poverty. But for the ethnic calculations, all households with incomes below $92.63 (for Fijians) and below $97.34 (for Indians) would have been classified as in poverty, even if their income was above $83.00.

Table 5.6 FPLs and BNPL (Ahlburg and FPR)

	FPL	Multiplier.	BNPL	Perc. of pop. in Poverty
National	54.55	1.52	83.00	25.5
Fijian	57.72	1.60	(92.63)	27.7
Indian	51.27	1.89	(97.34)	31.0
Others	57.72	1.60	(92.63)	27.6

Source: Derived from Tables 15 and 16 (1997 FPR, p 33,34)

Methodologically, there was no need to have a national value for the BNPL. If it is deemed necessary to have separate ethnic BNPLs, then the appropriate procedure for calculating the national incidence of poverty would be to *calculate separately* the different ethnic numbers of households in poverty (using the different ethnic BNPLs) *then to aggregate the numbers in poverty* to obtain the national numbers and hence the national proportions in poverty. If this is done, a more appropriate figure for those in poverty nationally would have been around 29 percent- between the two ethnic values for the incidence of poverty (27.7 percent and 31.0 percent).[86]

If the ethnic BNPL values in 1997 ($92.63 for Fijians and $97.34 for Indo-Fijians) were correct, then a more consistent "notional" figure for the National BNPL would have been somewhere in between the two ethnic values (about $94.79). But this common BNPL would give a lower incidence of poverty for Indo-Fijians and a higher

[83] The tables also had values for "Urban", "Settlement" and "Village" which have been left out for simplicity.
[84] Hence the conclusions in Table 15 (1977 FPR) on the percentages of the various sub-groups who were in Food Poverty in 1990-91 are consistent.
[85] Most recently by the Qarase Government's Minister of Finance in his 2006 Budget speech.
[86] These are the national results if the sub-group ethnic values are weighted by their share of the total population prevailing in 1990-91 (roughly: Fijians:49 percent, Indo-Fijians:46 percent and Others:5 percent).

one for Fijians. To use this common value would also undermine any justification for having different BNPLs for Fijians and Indo-Fijians, or rural and urban households.

The problem fundamentally derives from Ahlburg's wrong use of Stavenuiter's multipliers. Note that the implicit ethnic multipliers given in Table 5.6 (1.89 for Fijians and 1.60) for Indians are also inconsistent with the national multiplier of 1.52 (with the latter not in the ethnic range). Put alternatively, the national value for food as a percentage of total expenditure (66 percent) implied by the 0.52 multiplier, is also not consistent with the implicit ethnic percentages of 62 percent and 53 percent food ratios associated with the implicit multipliers for Fijians and Indians respectively.

There is also an interesting question of how Ahlburg derived the area BNPLs. The ethnic FPLs are calculated from the ethnic food baskets and the 1990-91 prices. Ahlburg (May 1996, endnote 26, p 84) states that the "cost of the minimum food budget for each area (urban, settlement, village) was calculated by multiplying the cost of the minimum diet for each ethnic group by its share of the households for each area and then summing them". Stavenuiter's (1983) multipliers were then used to derive the area BNPLs. But Ahlburg's reports and the 1997 FPR do not explain how the aggregate ethnic BNPLs were obtained.[87]

5.5 The 1997 FPR Ignored Adjustments for Household Size

Both of Ahlburg's earlier drafts (December 1995 and May 1996) noted that their reported tables on the incidence of poverty did not allow for differences in household size: "all households do not have five people or "four adult units"[88] and that food and other needs for a child are not as much as that for an adult.

Both of Ahlburg's draft reports therefore gave tables for the percentages of households in poverty, adjusting for household size whereby he stated the "income and expenditure of each household is compared to its own food poverty line and poverty line".[89] However, the results given were quite different in the different drafts (Table 5.6).[90]

Table 5.6 indicates that the figure quoted in the December 1995 Draft was much higher for the national estimate (32.3 percent) than 23.2 estimate given in the May 1996 Draft.

The adjusted December 1995 values are internally consistent with the estimates for the ethnic groups. The May 1996 values are not only different, but internally inconsistent.

[87] Ahlburg may have used the area FPLs, and Stavenuiter's area multipliers to obtain the area BNPLs. He then may have worked in reverse, using the ethnic shares of each area, to derive the ethnic BNPLs.
[88] Ahlburg, May 1996, p 38.
[89] This is indeed the correct procedure to follow.
[90] Both Drafts had a Table 20.2 titled "Estimates of Percentage of Households in Poverty based on Adjusted Household Size". The estimates used the income criteria (which are quoted here) but also expenditure (which are not).

If the results in the first column are correct (e.g the percentage of households in poverty was 32.3 percent), then the figure for the percentage of population in poverty is likely to be even higher, given that poorer households tend to be larger than non-poor households.

Table 5.6 Perc.of Households in Poverty (adjusted for Household Size)

	Dec 95	May 96
All	32.3	23.2
Fijian	32.4	27.7
Indo-Fijian	32.3	31.0
Others	31.4	27.6

Source: Ahlburg (1995, 1996). Appendix Tables.

Hence allowing for household size, the percent of total population in poverty in 1991 could have been well over 32.3 percent. Rough estimates indicate that in 1991, the lowest 30 percent of households ranked by income per capita would have contained some 34 percent of the population. It is therefore possible that 32 percent of the poorest households may well have contained at least 36 percent of the population.

Box 5.1 The Incidence of Poverty in 1991 was NOT 25 percent

Adjusting for household size, it may have been around 36 Percent

These numbers are considerably higher than the estimate of 25.2 universally quoted as the incidence of poverty in 1991. It is quite odd that the 1997 Fiji Poverty Report left out all reference to Ahlburg's original Tables 20.1 and 20.2 which gave the poverty incidence results adjusted for household size.

It should be noted that a frequent conclusion of recent poverty studies is one of worsening poverty since 1991, attributed to structural reforms, globalisation etc.

Whether that was the case or not, that conclusion cannot be reliably based on the 1997 Fiji Poverty Report conclusions about the national incidence of poverty in 1991.

The results presented here would be contrasting the current incidence of poverty of around 34 or 35 percent with about 36 or 37 percent in 1991. Given the doubts about the accuracy of the 1991 data, it would be unwise to make any strong conclusions about worsening poverty between 1991 and2002-03.

Chapter 6

The Incidence of Poverty and Poverty Gaps in 2002-03

This chapter first gives a view of the underlying distribution of income and population which provides the general numerical framework for the estimation of the national incidence of food poverty and poverty. Such a framework also allows us to use a common value for the BNPL, without differentiation between rural and urban areas, or ethnic sub-groups.

In this chapter, there is an attempt to present data which allows stakeholders to estimate the incidence of poverty and poverty gaps, using the same common values for Food Poverty Lines and Basic Needs Poverty Lines. At the same time, the study also presents differentiated values for the BNPL for different ethnic and regional groups, and the associated estimates of the incidences of poverty and poverty gaps.

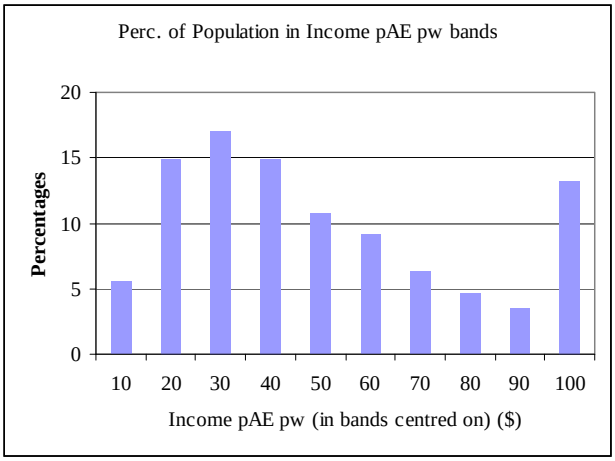
Table 6.1 Dist. of Population In HH Income Bands (percent) (2002)

Inc. pw ($) (midpt)		
Per AE	Per HH of 4AE	Percent Of Pop.
$10	$40	6
$20	$80	15
$30	$120	17
$40	$160	15
$50	$200	11
$60	$240	9
$70	$280	6
$80	$320	5
$90	$360	4
> 95	>$380	13
All		100

6.1 The National Distribution of Income

The incidence of poverty is calculated by first deciding on some minimum Income per Adult Equivalent for the household (Basic Need Poverty Line) and then estimating the percentage of population who are in households earning less than that standard. This section makes the implicit assumption that it is correct to use the same BNPL for all households in Fiji, regardless of their ethnicity, or whether they are in rural or urban areas.

Graph 6.1 Dist. of Pop. In Income Bands (Perc) (2002)



While there can be considerable debate about the correct value for the BNPL for Fiji, the actual choice is extremely important, simply because the possible range of values falls around the peak of distribution of persons in households with those Income pAE values. With households ranked by Income pAE pw, Table 6.1 and Graph 6.1 give the 2002-03 distribution of population in household income pAE pw bands.

They both clearly indicate that the peak of households are earning around $30 pAE pw or $120 per week per household of 4 adult equivalents.[91] Inevitably, varying the BNPL by small amounts around these values will have a large impact on the percentage of population considered to be below that BNPL and on the size of the Poverty Gap (or resources required to lift them above the poverty line). Thus within a $10 range around the income of $30 pAE pw as midpoint, there are some 17 percent of Fiji's population. The actual choice of the BNPL is therefore quite critical.

Table 6.2 Distribution of Population Up to Income pAE pw (Perc) (2002)

Income pAE pw	HH Inc per4AE pw	Cumulative Perc. to
15	60	5.6
25	100	20.5
30	120	29.4
35	140	37.5
45	180	52.4
55	220	63.2
65	260	72.3
75	300	78.6
85	340	83.3

Table 6.2 and Graph 6.2 give the cumulative distribution of population associated with Income pAE per week or Household Income per week for a household of 4 Adult Equivalents. These numbers give a broad indication of the "incidence of poverty" to be expected with any particular level of Household Income per AE per week.

Thus if the BNPL were to be set at $25 per AE pw (or $100 per household of 4 Adult Equivalents), 20.5 percent of the population would be below that BNPL, ie the incidence of poverty would be 20.5 percent.

At $30 pAE pw (or $120 pw for a household of 4 AE) the incidence of poverty rises from 20.5 percent to 29.4 percent- ie for a 20 percent increase in the BNPL, the incidence of poverty increases by 43 percent.

Table 6.2 makes it quite clear that the incidence of poverty will be extremely sensitive to the choice of BNPL, for levels between $25 and $45 per AE pw. This sensitivity (or elasticity) of poverty incidence must be expected since Graph 6.1 indicated that there are large proportions of Fiji's population whose income pAE pw lie between $25 and $45. More importantly for policy formulation, it also underlines the importance of being meticulous in selecting the appropriate values for the BNPL and its components.

6.2 The National Incidence of Poverty Using a Common BNPL

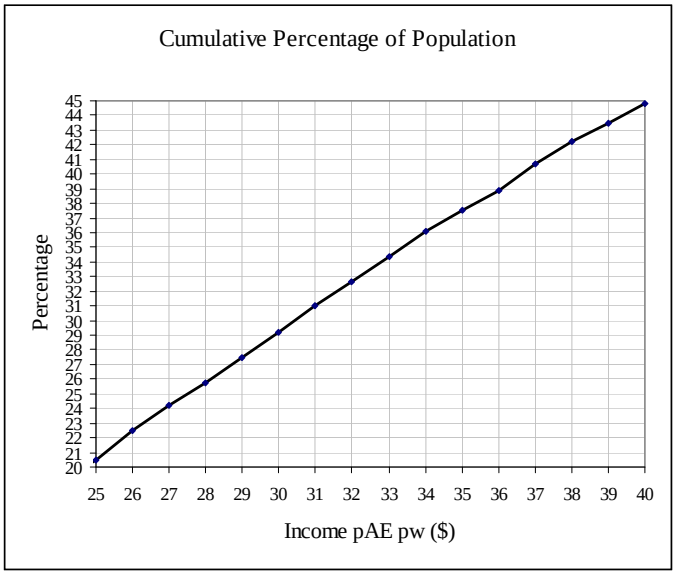
While much of the analysis in this study is focused on the derivation and application of Basic Needs Poverty Lines differentiated by ethnicity and rural/urban, it will be useful for stakeholders to have a feel for what the national incidence of poverty would be like, were there to be just one common value used for the BNPL for all sub-groups.

It is also recognised that different stakeholders, given their personal or institutional preferences, may choose different levels of BNPL. Graph 6.2 and Table 6.3 are therefore given here to enable the reader to estimate the incidence of poverty for whatever level of BNPL they choose in the range given. Thus on Graph 6.2, once the

[91] A household of 3 adults and 2 children would translate into 4 adult equivalents by the UN definition.

Income per AE per week is chosen (multiply by 4 to get the household income for 4 Adult Equivalents) then the Incidence of Poverty can be roughly read off on the vertical axis. For example at a BNPL of $40 per AE per week (about $160 per household of 4 adults, the incidence of poverty would be roughly about 45 percent.

Graph 6.2 The Incidence of Poverty (Perc. of Population)



Alternatively the BNPL may be read from column 1 in Table 6.3 (or column 2 if the BNPL is given for a household of 4 AEs) and the incidence of poverty is read from the third column.

For in-between values, the Box gives a linear intrapolation method for estimating the incidence of poverty more accurately. Suppose the BNPL is set at $33.20. Table 6.3 gives the incidence of poverty for $33 as 34.3 percent and for $34 as 36.1 percent. Clearly, the incidence of poverty associated with $33.20 will be between 34.3 percent and 36.1 percent.

In this case, the calculations in the Box show that the incidence of poverty associated with a BNPL pAE pw of $33.20 is approximately 34.7 percent.

Table 6.3 Incidence of Poverty for All Fiji (2002-03)

BNPL Income pAE pw	BNPlL Income per hh (4AE) pw	Percent Of Pop. Below BNPL
25	100	20.5
26	104	22.5
27	108	24.2
28	112	25.8
29	116	27.5
30	120	29.2
31	124	31.0
32	128	32.6
33	132	34.3
34	136	36.1
35	140	37.5

Box: 6.1 Estimation of the Incidence of Poverty by Linear Intrapolation

eg if the BNPL is set = $33.20
(i.e. between $33 and $34)

BNPL pAE	Percent of Population In Poverty
$33.00	34.3 percent
$33.20	**?**
$34.00	36.1 percent

Then the incidence of poverty for $33.20 can be linearly estimated as

= 34.3 + [(0.20)*(36.1 – 34.3)/(34-33)]
= 34.3 + (0.2*1.8)/1
= 34.3 + 0.36
= 34.66
= 34.7 percent (rounded off)

6.3 The Incidence of Food Poverty (common values for FPL)

Stakeholders may wish to estimate what percentage of the population are not earning enough to purchase what may be considered to be their minimum daily food needs, set at the value of the Food Poverty Line ($ per AE pw). Again, it is assumed in this section that the nutritional requirements of all households in Fiji may be met by the same dollar value.

Table 6.4 gives a table similar to Table 6.3, but with Income pAE values more in the range of values likely to be relevant for Fiji's Food Poverty Line (for 2002-03 estimated to be around $16 pAE pw).

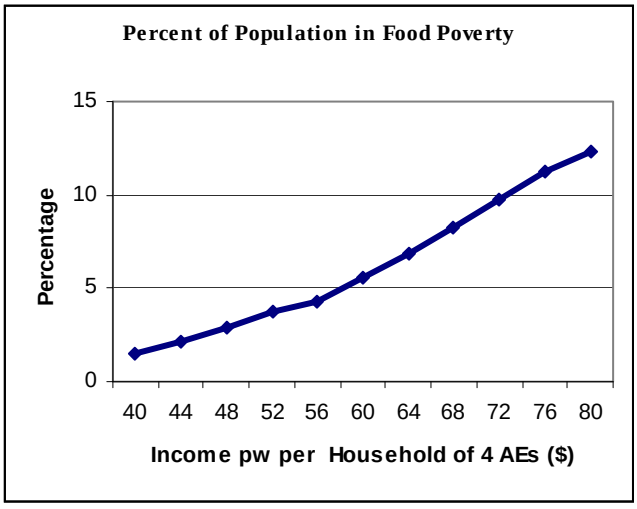
Table 6.4 Perc. of Population in Food Poverty

Inc pw pAE (below) ($)	Inc. pw per hh of 4AEs ($)	Cumul. Perc. of Popn.
10	40	1.5
11	44	2.1
12	48	2.9
13	52	3.7
14	56	4.3
15	60	5.6
16	**64**	**6.9**
17	68	8.2
18	72	9.7
19	76	11.2
20	80	12.3

Thus if the FPL were to be set at $16 per AE pw (or $64 per household of 4 Adult Equivalents, then 6.9 percent of the population would not be earning enough to even cover the cost of basic foods that comprise the accepted Food Poverty Line. This percentage would rise to 12.3 percent if a higher FPL of $20 per AE pw or $80 per household of 4 Adult Equivalents were accepted.

Note that for this rise of 25 percent in the FPL (from $64 to $80 per household), the percentage of population below the FPL rises by 78 percent. Graph 6.3 makes clear that after a household income of $64 per week (for a household of size 4 AEa) the percentage in food poverty increases more steeply. The recent very large increases in the prices of rice and flour would undoubtedly have increased the incidence of food poverty and the overall incidence of poverty.

Graph 6.3 Percentage of Population in Food Poverty



Clearly, the level at which the FPL is set and the methodology underlying the process is quite important. The chapter on the setting of the Food Poverty Line is therefore quite critical to the analysis of poverty.[92]

[92] The increases in the prices of basic food items in early 2008 suggests that the likely value of the FPL may be around $20 pAE or $80 per household of 4 AE. If incomes in Fiji have not risen significantly since 2003, then the incidence of Food Poverty will be around 12 percent in 2008.

6.4 Rural:Urban Incidences of Poverty With Common Values for BNPL

Table 6.5 gives the rural:urban break-down of the numbers of people below the various FPL and BNPL values.

At FPL values around $16 pAE pw or $64 pw per household of 4 AEs (the 2002-03 values for the FPL), there were some 54 thousand persons in Food Poverty. Some 78% of these were in the Rural areas, and only 18 percent in Urban areas.

Table 6.5 Numbers and Perc. Below FPL and BNPL (by urban/rural)

BNPL ($) pw		Population below BNPL (000)			Horizontal percent	
pAE pw	p hh 4AE	Rural	Urban	Fiji	Rural	Urban
$16	$64	42	12	54	78	22
$33	$132	181	83	264	69	31

At a BNPL value of around $33 pAE pw (or $132 pw per household of 4AEs), some 264 thousands persons were in poverty, with 69 percent being in the rural areas compared to 31 percent in the Urban areas. Poverty is very much focused in rural areas.

6.5 By Divisions and Rural:Urban (common values for BNPL)

Table 6.6 gives divisional break-downs of values which are indicative of the percentage of persons and the numbers of persons likely to have insufficient income to cover their Food Poverty Line (assumed to be $16 per Adult Equivalent or $64 per household of 4 Adult Equivalents.

Table 6.6 Incidence of Food Poverty and Populations Below Food Poverty Line (by Divisions and Rural/Urban) at BNPL of $16 pAE or $64 per hh of 4AE

	Central	East.	North.	West.	All
	Incidence of Poverty				
Rural	6	8	17	9	10
Urban	3	0	7	4	3
All	4	7	15	7	7
	Population in Poverty (000)				
Rural	6	3	18	15	42
Urban	6	0	2	4	12
All	12	3	20	19	54

Persons in the Rural Northern Division are the most vulnerable to Food Poverty, with 17 percent of the population residing in households earning below $16 per AE or $64 per household of 4 AE.

Table 6.7 gives values which are indicative of the percentage of persons and the numbers of persons

Table 6.7 Incidence of Poverty and Populations Below BNPL (by Divisions and Rural/Urban) at common BNPL of $33 pAE or $132 per hh of 4AE

	Cent.	East.	North.	West.`	All
	Incidence of Poverty				
Rural	31	38	61	41	43
Urban	20	34	34	28	24
All	24	38	55	36	34
	Population in Poverty (000)				
Rural	35	15	62	69	181
Urban	41	1	10	31	83
All	76	17	72	99	264

likely to have insufficient income to cover their Basic Needs Poverty Line at a value of $33 per Adult Equivalent or $132 per household of 4 Adult Equivalents.

Again, the highest incidence of poverty is amongst persons in the Rural Northern division, with a massive 61 percent in poverty. With Northern Urban also having an extremely high 34 percent in poverty, the average incidence of poverty for the Northern Division in totality is an extremely high 55 percent.

With the Western Division having a very large population base, the numbers in poverty in Rural Western Division was the highest at 69 thousands, and 99 thousands altogether.

6.6 Major Source of Household Income (common values for BNPL)

An "economic class" perspective of the incidence of poverty is obtained by examining the percentage of populations below the BNPL for households identified by "major source of household income".[93]

Graph 6.4 Perc. Below BNPL (by source of income)

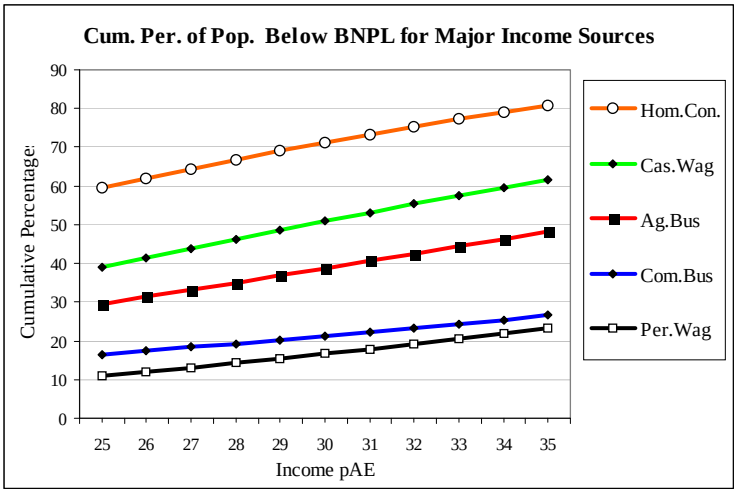


Table 6.11 and Graph 6.4 indicate clearly that the households and populations most vulnerable to poverty are those dependent on Home Consumption, and those dependent on Casual Wages.

At a BNPL of $33 pAE pw (or $132 per household of 4 Adult Equivalents), some 77 percent of the occupants of households dependent on Home Consumption were below the Poverty Line, and 58 percent of those dependent on Casual Wages.

Table 6.8 Perc. and Nos. of People Below BNPL$33 pAE pw or $132 pw per hh of 4AE By Major Source of Household Income

	Permanent Wages	Commercial Business	Agricultural Business	Casual Wages	Home. Consumption
Percentages	21	24	44	58	77
Persons	63793	10595	50057	76225	60885

These workers are also those which do not have the protection of unions, although a proportion may come under the ambit of Government's Wages Councils.

[93] These were defined by the source which comprised more than 50 percent of the household income, or the largest component if less than 50 percent.

The least vulnerable were those dependent on Permanent Wages (only 21 percent of their occupants) and those dependent on Commercial Income (24 percent of the occupants).[94]

In terms of total numbers of persons below that $33 pAE pw BNPL (the last row of Table 6.11), the largest number (76225) were in households dependent on Casual Wages. For a fuller treatment of the poverty of these workers and the weaknesses and general ineffectiveness of the Wages Councils in properly adjusting their wages, see Narsey (2006a).

Note that the numbers of persons in poverty whose household's income was largely earned through Permanent Wages were not too far behind though, with some 63,793 below the BNPL (Table 6.11). These would mostly be those working in the private sector and not the established staff in Government or statutory organisations whose salary levels are generally well above the poverty line.

Box 6.2 The Poverty of Subsistence Livelihoods: the forgotten poor

The public discourse on poverty in Fiji usually focuses on those who are in urban areas and those who are earning wages, publicly very visible groups. Partly, this is a result of the struggles by wage earners to increase their incomes, through strikes or calls for state intervention through mechanisms such Wages Council. The evidence in this section on the much higher rates of poverty of those earning Casual Wages certainly justifies the valididity of these struggles.

However, the data here on the much higher rates of poverty of those people living in households dependent on Home Consumption (i.e. what would normally be called "subsistence farmers") and the extremely high rates of poverty in the rural areas, suggests that the national discourse must focus far more on rural poverty and those whose voices are hardly ever heard in the public arenas, and that extremely weakly.

Note also that rural people, and especially the most remote subsistence farmers, are far more materially deprived by virtually every other indicator of quality of life- such as access to good schools, health care, roads, electricity, sewerage, water, and entertainment media such as television.

This is outlined in Chapter 8.

[94] Ironically, these are usually protected by politically strong unions in Fiji.

6.7 Incidence of Poverty Using Common BNPL Values for Ethnic Groups

Differentiated values for the BNPL (as used in the sections below) because of differences in essential food and non-food costs, will naturally give rise to differences in the estimates of poverty incidence. But it may be also argued that different groups are spending different amounts on "essentials" partly because of cultural preferences in determining expenditures on food, education, housing or transport.

It is useful to therefore examine what the estimates of the incidence of poverty would be for different groups, were we to use the same income test for all sub-groups? Table 6.9 gives the estimates of the incidence of poverty in 2002-03 using the same BNPL for all the ethnic sub-groups for an appropriate range of values for the BNPL.

At a BNPL pAE pw of $33, there are significant differences between the ethnic groups in the rural areas with the Indo-Fijian incidence of poverty (46 percent) much higher than that of Rural Fijians (41 percent). However, the urban incidence of poverty for the two major groups is about the same (24 and 25 percent). In aggregate, nationally, the two ethnic groups have virtually identical incidences of poverty-around 35 percent.[95]

Table 6.9 Percentage Incidence of Poverty for Given BNPL pAE ($)

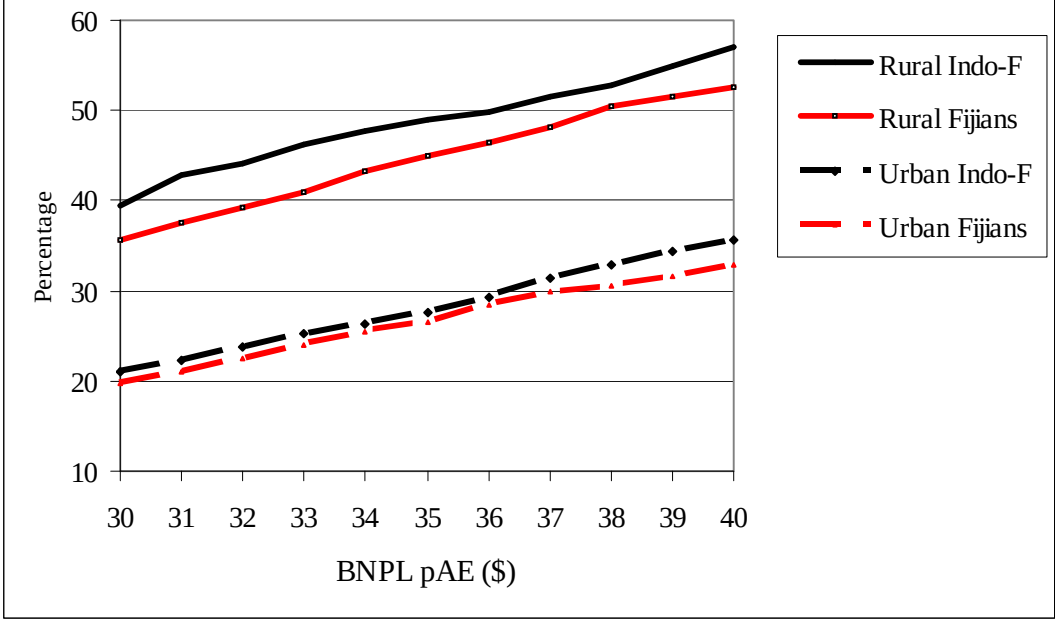
	BNPL pAE pw ($)					
	$30	$31	$32	$33	$34	$35
Fijian Rural	36	38	39	41	43	45
Indo-F Rural	39	43	44	46	48	49
Others Rural	36	36	45	47	52	54
Fijian Urban	20	21	23	24	26	26
Indo-F Urban	21	22	24	25	26	28
Others Urban	12	12	12	15	15	17
Fijian	30	32	33	35	37	39
Indo-Fijian	30	32	33	35	36	38
Others	19	19	21	24	26	28
All rural	37	39	41	43	45	47
All Urban	20	21	22	24	25	26
ALL FIJI	**29**	**31**	**33**	**35**	**36**	**38**

It is also clear (Graph 6.5) that should the same BNPL be used for all four groups (for example some population-weighted average of all the sub-group BNPLs), then the ranking of the incidence of poverty would not change. For whatever level of BNPL chosen in this range, the poorest groups are Rural Indo-Fijians followed closely by Rural Fijians. Both Urban Indo-Fijians and Urban Fijians are on a significantly lower tier and fairly close together, in that order.
Numerical estimates of the incidence of poverty may be obtained from Table 6.8 using the intrapolation method explained earlier.

[95] The result is a consequence of the much large numbers of Fijians in the population and the poor.

Note that some of the "area" sub-groups used for Stavenuiter's and Ahlburg's analyses (Village, Settlements) are not strictly comparable to the rural categories (Rural Fijians and Rural Indo-Fijians) used in the 2002 analysis.[96]

Graph 6.5 The Incidence of Poverty (for different ethnic sub-groups and BNPL pAE pw)

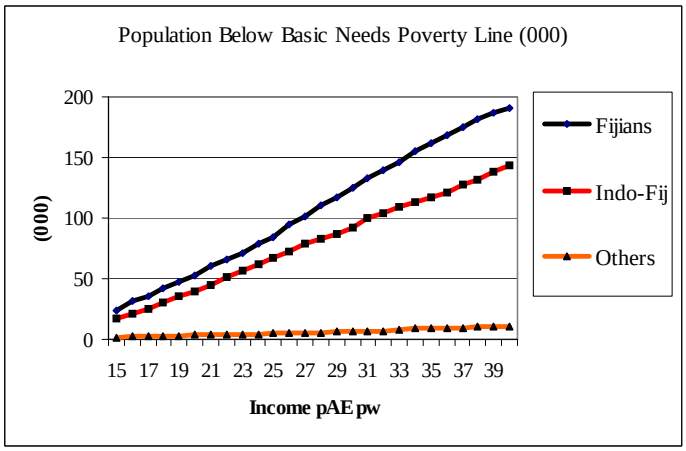


The above estimates have focused on proportions of groups which were in poverty. An equally important perspective is given by estimates of numbers of people in poverty, which can give a better idea of the relative amounts of resources that may need to be allocated to the different groups for poverty alleviation purposes- the Poverty Gap estimates.

6.8 Numbers of People in Poverty Using Common BNPL value

Table 6.10 and Graph 6.6 give an indication of the aggregate numbers of the different ethnic components of the population that are below the particular levels of the Basic Needs Poverty Line. Several pertinent facts stand out.

Graph 6.6 Populations Below BNPLs (by ethnicity) (2002)



With a Food Poverty Line of around $16 per

[96] For instance, there were both ethnic groups living in the "settlement" category used in 1991.

AE pw or $64 per household of 4 AEs, some 54 thousand people have incomes which are below even the FPL. And a very large 224 thousands persons were living below a BNPL of $30 pAE pw (or a mere $120 per household of 4 Adult Equivalents).

Secondly, the last three columns of Table 6.9 indicate that whatever the level of BNPL chosen around $33 pAE pw, roughly 56 percent of those below the BNPL will be indigenous Fijians, 41 percent Indo-Fijians, and 3 percent Others. These percentages are very close to the different ethnic groups' share of the total population.

Table 6.10 Population Below BNPL pAE pw and per 4AE pw

BNPL ($)		Population Below BNPL (000)				Horizontal Percent		
pAE pw	p 4AE pw	Fijians	Indo-Fij	Others	Fiji	Fijian	Indo-F	Others
$16	$64	31	21	2	54	58	38	4
$33	$132	147	109	8	264	56	41	3

If the patterns in depths of poverty remain roughly the same for all ethnic households, then the percentages in the last three columns will be the most important determinants of the relative allocations of resources that would be required for poverty alleviation. These relativities in the numbers of poor by ethnicity may be seen clearly in Graph 6.5. With the continuing rise in Fijian numbers and fall in Indo-Fijian numbers, the gap between the two curves is likely to increase in the foreseeable future.

Table 6.11 Revised BNPL pAE 2002-03

	Rur Fij	Urb Fij	Rur Ind	Urb Ind
FPL pAE 2002	16.10	15.89	15.78	15.78
NFPL pAE Decile 3	15.05	18.71	15.80	21.69
BNPL pAE 2002	31.15	34.60	31.58	37.47
BNPL per hh of 4AE	124.60	138.39	126.34	149.89

It will be show below that while ethnically differentiated values for the BNPL tend to give a higher value for Urban Indo-Fijians, this effect only partly negates the impact of the much larger numbers of Fijians in poverty, when calculating the Poverty Gaps.

6.9 The Incidence of Poverty Using Ethnically Differentiated BNPLs

One methodological challenge is to derive poverty lines which may be used consistently over time. Kakwani (2004) gives two methods of doing so: Firstly the poverty line estimated for the earlier period may be adjusted to the later period by using consumer price indices. Secondly, a fresh poverty line may be calculated using the latest HIES and the Food Energy Intake method. Both methods are used here and the results given here for comparability and sensitivity.

Table 6.11 and Graph 6.7 gives the revised values for the BNPL for the four sub-groups, using the Food Poverty Lines estimated in Chapter 3 and the Non-Food Poverty Lines estimated in Chapter 4. *With the revised 2002 FPLs being approximately equal in dollar value for all the four sub-groups, then the differences in values for the BNPLs are almost entirely due to the differences in amounts spent on non-food items, and the standard used (Graph 6.7).*

Graph 6.7 Revised FPL, NFPL and BNPL (2002-03)

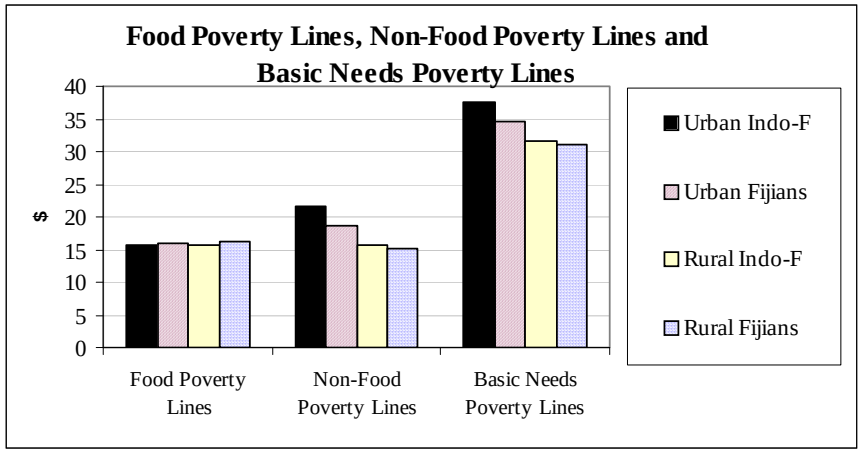


Table 6.12 also gives the comparison of the resultant BNPL values, with the 1997 BNPLs for 1991, adjusted by the CPI to 2002-03. The revised BNPLs are lower for rural Fijians by 3 percent, lower by 6 percent for Rural Indo-Fijians, while being higher by 8 percent for Urban Fijians, and 11 percent for 11 percent for Urban Indo-Fijians.

Table 6.12 BNPL pAE with NFPL = Av. Decile 3

	Rur Fij	Urb Fij	Rur Ind	Urb Ind
BNPL pAE 2002	31.15	34.60	31.58	37.47
1997 BNPL (CPI adj)	32.03	32.03	33.66	33.66
Diff. percent (2002 - 1997)	-3	8	-6	11

Note that the BNPL for Urban Indo-Fijians is considerably higher than that for all the other sub-groups, including Urban Fijians. It should be expected that the incidence of poverty for Urban Indo-Fijians will therefore be relatively higher than that for Urban Fijians.

Table 6.13 gives the revised estimates of the incidence of poverty using the revised 2002-03 BNPL and the BNPLs used by the 1997 FPR, adjusted by the CPI to 2002-03 values.[97]

Table 6.13 Incidence of Poverty for BNPL Alternatives (%)

	1997 BNPL Adj. by CPI to 2002	**Revised 2002 BNPL**
Fijian Rural	*39*	**38**
Indo-F Rural	*47*	**44**
Others Rural	*45*	**41**
Fijian Urban	*23*	**26**
Indo-F Urban	*26*	**32**
Others Urban	*12*	**17**
Fijians	*33*	**34**
Indo-Fijians;	*36*	**37**
Others	*21*	**24**
All Rural	*42*	**40**
All Urban	*24*	**29**
All	*34*	**35**

By coincidence, the estimates for the national incidence of poverty work out to be fairly close to each other, being 34 percent and 35 percent respectively.

While the estimates for the incidence of poverty for ethnic sub-groups, using the two standards are slightly different in absolute terms, the ethnic and rural:urban relativities are exactly the same. Thus both BNPL alternatives give Indo-Fijians as having the higher

[97] The difficulty lies in finding estimates for 1991 using the same methodology of ranking households.

incidence of poverty, in rural areas, in urban areas, and in aggregate. These results would seem to be quite robust.

Using the revised 2002-03 BNPL values, the rural incidence of poverty was 40 percent compared to a much lower 29 percent for the urban areas. The Indo-Fijian incidence of poverty was 37 percent, just slightly higher than the 34 percent for Fijians.[98]

The worst sub-group was Rural Indo-Fijians with 44 percent incidence of poverty (and 47 percent by the 1997 BNPL). This is not a surprising result, given the decline of the sugar industry and the expiry of land leases for Indo-Fijian farmers.

6.10 By Division and Differentiated BNPL values

Table 6.14 gives the divisional estimates of the incidence of poverty using differentiated values for the BNPL. These results are not too different from those in Table 6.7.

Table 6.14 The Incidence of Poverty Using Differentiated Values for the BNPLs

Division	Fijian	Indo-F	Other	All
	Rural			
Central	29	29	0	28
Eastern	34		51	35
Northern	55	60	52	56
Western	38	39	7	38
All	38	44	41	40
	Urban			
Central	25	25	15	24
Eastern	33	0	64	34
Northern	33	42	31	39
Western	27	39	12	34
All Urban	26	32	17	29
	Rural and Urban			
Central	27	25	14	26
Eastern	34	0	54	35
Northern	53	54	47	53
Western	34	39	11	37
FIJI	34	37	24	35

Rural Indo-Fijians in the Northern Division have the highest incidence of poverty (at 60 percent), with their Fijian counterparts not too far behind at 55 percent.[99] Overall, the Northern division has the highest aggregate incidence of poverty (at 53 percent) followed by Western Division with 37 percent.

Central division had the lowest at 26 percent, with Fijians and Indo-Fijians having an equal 29 percent incidence of poverty.

Development efforts on infrastructure investment have historically focused on the Central division, while the needs are clearly most intense in the Northern division.

[98] Had proper account not been taken of the differences in household size between Fijian and Indo-Fijian households, the incidence of poverty for Fijians would have been 2 percentage points lower and 2 percentage points higher for Indo-Fijians. A similar difference would have existed in the rural sub-groups.

[99] The estimates for Urban Eastern have to viewed cautiously because of the problem of small numbers of households in the survey.

6.11 By province

The Bureau has not previously given tables disaggregated by province because the 2002-03 HIES appears not to have representative sampling by province.[100] However, Table 6.15 gives the proportions of the population in poverty by province, just as indicators of areas of intense need.[101]

Bua, with 63 percent incidence of poverty absolutely stand out, as also do Rural Ra (53 percent) Rural Macuata (57 percent) and Rural Cakaudrove (53 percent).

The last column of Table 6.14 indicates where the poor are distributed by province. Ba, while it had roughly average incidence of poverty (of 34 percent), had the highest proportion of the poor (at 25 percent) because of its massive population size. Naitasiri and Macuata followed with 13 and 12 percent respectively. These numbers will be reflected in the corresponding tables for the distribution of the Poverty Gap which will indicate the extent to which poverty alleviation resources need to flow to these areas, on the basis of need.

Table 6.15 Incidence of Poverty by Province (using differentiated BNPL values)

	Incidence of Poverty			% of
Province	Rural	Urban	All	Poor
Ba	35	33	34	25
Bua	63	65	63	5
Cakaudrove	53	37	51	9
Kadavu	27		27	2
Lau	44		44	2
Lomaiviti	31	34	32	1
Macuata	57	39	50	12
Nadroga/Nav.	39	39	39	8
Naitasiri	36	24	27	13
Namosi	34		34	0
Ra	53	33	50	5
Rewa	6	21	19	6
Rotuma	56		56	0
Serua	33	40	35	2
Tailevu	29	36	31	8
All	40	29	35	100

6.12 The Depth of Poverty Using Common Values for the BNPL

The estimates of the "incidence of poverty" gives us some idea about the proportions of a population which is below some BNPL. It does not tell us "how far below the poverty line" the poor are- i.e. the "depth of poverty". Thus one household may be earning just $1 pAE pw below the BNPL, while another household may be earning $5 pAE pw below the BNPL. Both will be considered to be equally contributing to the incidence of poverty, but clearly the second household is more in poverty than the first household.

To extend the example, it may well be that the bulk of the households below the BNPL are just below the BNPL (or the depth of poverty may not be intense), or they could be well below the BNPL (in which case the depth of poverty could be intense). It is therefore important to derive an aggregate measure of how far below the BNPL are all those households which are considered to be in poverty.

[100] Thus the HIES estimates of the population by province appear quite unreliable.
[101] The errors in proportions are likely to be less significant than errors in provincial aggregates.

If Yi is a particular "poor" household's Income pAE pw, its contribution to the Poverty Gap

= (BNPL – Yi) * (household size, in AEs) * (household weight) * 52.

The "Poverty Gap" is therefore the aggregate value of all gaps that each poor household has with the BNPL, adjusted for household size and household weight in the HIES, summed up over the year. Notionally, it would represent the total dollar amount that would be required per year, to bring all "poor" household's income up to the value of the BNPL.

Table 6.16 gives the values of the Poverty Gap for each of the ethnic groups, for a range of common values for the BNPL. To be technically correct, the Poverty Gap should be calculated using the differentiated ethnic values for the BNPL (as is done below), but this section first presents estimates for the Poverty Gaps, using common values for the BNPL.[102]

At a BNPL of $30 pAE pw (or $120 pw for a household of 4AE), the Poverty Gap for all Fiji is $90 million. The value rises to $145 million at a BNPL of $35 pAE pw (or $130 pw for a household of 4 AEs). At $33 pAE pw, the Poverty Gap is 2.2 percent of the GDP[103], rising to 3.6 percent at a BNPL pAE pw of $35 (or $140 per week for a household of 4 Adult Equivalents).

Around these values for the BNPL, the Poverty Gap is extremely elastic to the level of BNPL chosen. For each 1 percent rise in the value of the BNPL, the Poverty Gap rises by more than 3 percent.

Box 6.3 The Difference between Incidence of Poverty and Poverty Gap

It is important to know this difference because of the implications for public policy on required poverty alleviation resources. The "incidence of poverty" number gives an indication of the "intensity" of poverty or where people are "poorest". Thus from Table 6.14, Bua had a much higher proportion of its population in poverty (at 62 percent) compared to Ba with a much lower 34 percent. Bua must therefore deserve "priority of attention" for poverty alleviation.

However, given that Bua's share of the overall population is much lower (3 percent) compared to that of Ba (26 percent) then Ba ends up with a much higher proportion of the poor (25 percent) than Bua (5 percent). On the basis of aggregate need, therefore, far more of the poverty alleviation resources will flow to Ba (as is indicated below in Table 6.22 on provincial shares of Poverty Gaps.

It may be noted that the ethnic contribution to the Poverty Gap is around 54 percent for indigenous Fijians, 43 percent for Indo-Fijians and 3 percent for Others.

[102] It would be impractical and politically difficult to attempt divisional or provincial allocations of poverty alleviation resources on the basis of ethnicity.
[103] The GDP is the average for 2002 and 2003 (roughly $4026 million at market prices).

These proportions are virtually the same as the overall ethnic shares of the total population of Fiji.[104]

Table 6.16 Poverty Gap (by ethnicity and value of BNPL) ($m and percent)

BNPL ($)	Poverty Gap ($m)				Perc. Share of Poverty Gap			Poverty Gap as Perc. of GDP
pAE pw	Fijian	Indo-Fij	Others	All	Fijian	Indo-Fij	Others	
30	48	39	3	90	54	43	3	2.2
31	54	43	3	100	54	43	3	2.5
32	60	47	3	110	54	43	3	2.7
33	66	52	4	121	54	43	3	3.0
34	72	57	4	133	54	43	3	3.3
35	79	62	5	145	54	43	3	3.6

Put alternatively, were all the "poor" households to be "given" just enough resources to bring their household incomes up to the chosen common BNPL (i.e. purely on the basis of need) then indigenous Fijian households will receive the majority (54 percent) of the resources, Indo-Fijian households will receive 43 percent of the resources, and Others just 3 percent.

Table 6.17 Poverty Alleviation Resources based on Common BNPL of $33 pAE pw

Ethnicity	Rural	Urban	All
	$ millions		
Fijian	51	15	66
Indo-Fij	33	18	52
Other	2	1	4
All	86	35	121
	Percentage Shares		
Fijian	42	12	54
Indo-Fij	28	15	43
Other	2	1	3
All	71	29	100

These proportions will naturally change slightly when differentiated BNPLs are used below to estimate the Poverty Gaps, since the Indo-Fijian BNPL value is somewhat higher than the others.

Even though the rate of poverty incidence is highest for Indo-Fijians (and especially rural Indo-Fijians) an "Affirmative Action" policy based on need rather than ethnicity, will still allocate the bulk of the resources to indigenous Fijians, even though the priority area would be rural Indo-Fijians (see Box 6.1 for a comment on the political dimension).

Table 6.17 on the other hand indicates that the rural areas have a far greater depth of poverty than the urban areas. Some 71 percent of the resources required to redress the poverty would need to be devoted to the rural areas, and only 29 percent to the urban areas. The largest share would go to Rural Fijians with 42 percent, followed by Rural Indo-Fijians with 28 percent.

Table 6.18 gives the Poverty Gap distributed by divisions and rural and urban areas. Overall, some 38 percent of the national Poverty Gap originates in the Western

[104] Use of differentiated BNPLs will however tend to increase the share of poverty alleviation resources going to Indo-Fijians (to roughly 52 percent) and reduce the share for indigenous Fijians (to roughly 45 percent).

Division, 32 percent in the Northern Division, and some 25 percent in the Central Division.

The two priority areas of need are Rural Northern division (with 28 percent) of all required poverty alleviation resources, and rural Western Division (with 27 percent) of the total national resources required to bridge the Poverty Gaps.

Table 6.18 Poverty Gap (by Division and rural/urban) at BNPL pAE pw = $33

	Central	Eastern	Northern	Western	All
	$millions of Poverty Alleviation Resources				
Rural	14	6	33	33	86
Urban	16	0	5	13	35
All	30	6	38	46	121
	Percentage of Total Poverty Gap				
Rural	11	5	28	27	71
Urban	14	0	4	11	29
All	25	5	32	38	100

When it comes to poverty alleviation, not only is there an urgent need to have a "Look North" policy but also a "Look West" policy as well. The latter may well seem odd, given that the Western division has the bulk of the major sources of the country's economic wealth in sugar, tourism, forestry, gold and water. However the bulk of the resources for the Western division would need to go to rural areas, where the sugar industry has been severe decline over the last decade.

An important issue for national development is the perception that national infrastructure development resources are devoted relatively more to the Central division (with the capital Suva), with a consequent neglect of the North and to a lesser extent the Western division. It has been a matter of public concern that even major feeder roads in the Northern Division are virtually unusable in the wet season.

This problem is likely to be exacerbated by the massive rural:urban drift that has taken place over the last decade, especially to the Suva:Nausori corridor, where large numbers of both legal and illegal squatter settlements are crying out for infrastructure development such as water, sewerage, electricity and roads. But note the danger of using the results of unequal development to justify future public investments in infrastructure (Box 6.3)

6.13 The Depth of Poverty Using Differentiated BNPL values

The previous section has used common values for the BNPL to estimate the Poverty Gaps around 2002-03. If however, the differentiation in the values for the BNPL is justified for the four sub-groups (Rural and Urban Fijians, and Rural and Urban Indo-Fijians), then it is technically more correct to use the differentiated values for each sub-group, to calculate its own Poverty Gap.

Table 6.19 Poverty Alleviation Resources Required per HH of 4 AEs with Differentiated values for the BNPL

	Rur Fij	Urb Fij	Rur Ind	Urb Ind
BNPL per hh of 4 AE	124.60	138.39	126.34	149.89
Actual Income per hh	120.00	120.00	120.00	120.00
Transfer Required	4.60	18.39	6.34	29.89

Note the implication of this for poverty alleviation policy, if

for instance, there were four poor households of size 4 AE in each of these four sub-groups, each earning a total of $120 per week. A poverty alleviation strategy based on the differentiated values for the BNPL would need to transfer enough resources to the poor household, to just reach its BNPL value. If the BNPL values are different for the sub-groups, then these four households, even though they have the same household income of $120 per week, would need quite different transfers as indicated by Table 6.19.

Thus a rural Fijian household would be receiving only $4.60 while a neighbouring Indo-Fijian household would be receiving $6.34. Similarly, an urban Fijian household would receive $18.39 while a neighbouring Indo-Fijian household would be receiving $29.89. *Clearly, such a poverty alleviation policy based on ethnically differentiated BNPL values, would be extremely divisive politically, and difficult to implement in practice.*

It would be far more pragmatic and unifying to have a common BBNL value for each region (rural:urban, division or province) for the purpose of poverty alleviation measures. It must be kept in mind that certain public sector subsidised investments such as on roads, water, sewerage, electricity, and telecommunications are not exclusive to any ethnic group: once provided, they are enjoyed by all ethnic groups in that area.

Nevertheless, for the sake of technical correctness and some degree of sensitivity analysis, this section gives some estimates of the Poverty Gaps, with differentiated values for the BNPL.

Table 6.20 Poverty Alleviation Resources based on Differentiated BNPL values

Ethnicity	Rural	Urban	All
	$ millions		
Fijian	42	17	60
Indo-Fij	29	28	57
Other	2	2	4
All	74	47	121
	Percentage Shares		
Fijian	35	14	49
Indo-Fij	24	23	47
Other	2	1	3
All	61	39	100

Table 6.20 gives the poverty alleviation resources which would accrue to the different sub-groups, based on the BNPL values indicated in Table 6.11.

One can see that the Fijian community would still enjoy the larger share (49 percent) compared to 47 percent for Indo-Fijians. While the gap between the ethnic groups has reduced, this is to be expected given that differentiated BNPLs result in a much higher BNPL value for urban Indo-Fijians.

The largest share overall would still accrue to Rural Fijians (with 35 percent) with the next largest share accruing to Rural Indo-Fijians (with 24 percent). Note however, that Urban Indo-Fijians now have a larger share than before, at around 23 percent.

Box 6.4 Poverty and Ethnically Polarised Political Parties in Fiji

Historically, the major political parties in Fiji have derived their majority support from either indigenous Fijians or Indo-Fijians. These major political parties frequently appealed to their voters on the message that "their" ethnic groups were the "most poor" and therefore, their political party would, if in power, pursue the interests of "their" poor through "Affirmative Action" policies. These political parties in power are then accused by others of being racist and ignoring the "others'" poor. This tunnel vision approach by ethnocentric political parties has continued in Fiji despite the most recent national data indicating that while the incidence of poverty is higher for Indo-Fijians, the Poverty Gap in aggregate is larger for indigenous Fijians.

Since 2005 to the present time, there has been little urgency on the part of any government, to publicly discuss and disseminate the poverty results based on the national surveys conducted by the government's own statistical office, the Fiji Islands Bureau of Statistics. Both the major political parties in Fiji clearly find some parts of the poverty analysis unpalatable enough to encourage them to disregard the results in totality.

It is a salutary fact that the poverty gap for Fiji of around 3 percent of GDP in 2002-03, is roughly the equivalent of the minimum the country ought to be adding to its wealth annually through economic growth. Had the Fijian economy be growing at its full potential, with sound economic policy under-pinning, and without the political instability that has plagued it for the last twenty years, the annual economic growth would have in all likelihood provided more than double these amounts. There would have been ample public resources available for all kinds of affirmative action policies for the disadvantaged groups, while the poor of all ethnic groups could have been assisted purely on the basis of their needs and not ethnicity or any other divisive categorization.

The irony is that the political instability that Fiji has faced over the last twenty years, in large measure, has been the result of political struggle between ethnically driven political parties for control of state power, with each party's primary focus being the furtherance of the interests of their client political groups. When in power, the controlling ethnocentric leaders have ignored the legitimate interests of the poor of other ethnic groups, with the resultant political instability, lack of investor confidence, sub-optimal or negligible economic growth, and basic insufficiency of resources for poverty alleviation. At the same time, under the direction of all the major ethnocentric political parties, the respective governments have either encouraged or allowed the military to overspend their budgets by massive amounts, amounting to perhaps in excess of $100 million over 2005 to 2007.

It has also been the case that many political parties have been reluctant to acknowledge the very important progress by the ethnic Fijian community over the last two decades. Because of its importance, Annex 11 has therefore been added to this study, although this is not an issue of poverty but one of increasing material prosperity for one ethnic group.

At the divisional level, out of the same total poverty alleviation resources of $121 million required, Rural Northern Division would still be entitled to the largest share at $29 million (29 percent of the total), with Rural Western coming next with $28 million (Table 6.21).

Table 6.21 Poverty Gap (by Division and rural/urban) Using Differentiated BNPL values

	Central	Eastern	Northern	Western	All
	$millions of Poverty Alleviation Resources				
Rural	11	5	29	28	74
Urban	22	0	6	18	47
All	33	5	36	47	121
	Percentage of Total Poverty Gap				
Rural	9	4	24	23	61
Urban	18	0	5	15	39
All	28	4	29	39	100

In aggregate, the Western Division would be entitled to 39 percent of total resources, followed by Northern Division with 29 percent. These are pretty much the same policy directions as given by the Poverty Gap analysis using common values for the BNPL, except for slight increases in areas where there are relatively more Urban Indo-Fijian poor (because of their higher values for the BNPL).

Table 6.22 gives some indication of the provincial allocation of total poverty alleviation resources, with Ba having the largest share (25 percent) followed by Macuata (14 percent) and Naitasiri (13 percent). In most provinces, the rural allocation predominates over the urban allocation, except in Ba where Urban Ba would receive a higher allocation (14 percent) than Rural Ba (12 percent).

Table 6.22 Perc. Share of Poverty Alleviation Resources with Differentiated BNPL values

Province	Rural	Urban	All
Ba	12	14	25
Bua	6	0	6
Cakaudrove	9	0	9
Kadavu	1	0	1
Lau	2	0	2
Lomaiviti	1	0	1
Macuata	9	5	14
Nadroga/Navosa	6	1	7
Naitasiri	3	10	13
Namosi	1	0	1
Ra	6	0	6
Rewa	0	5	6
Rotuma	0	0	0
Serua	1	1	2
Tailevu	4	2	6
All	61	39	100

To a large extent, these numbers are determined by the numbers of poor in the provinces and not just the intensity of poverty. This table should therefore be read together with Table 6.15 on the provincial estimates for the "incidence of poverty".

6.14 Conclusion

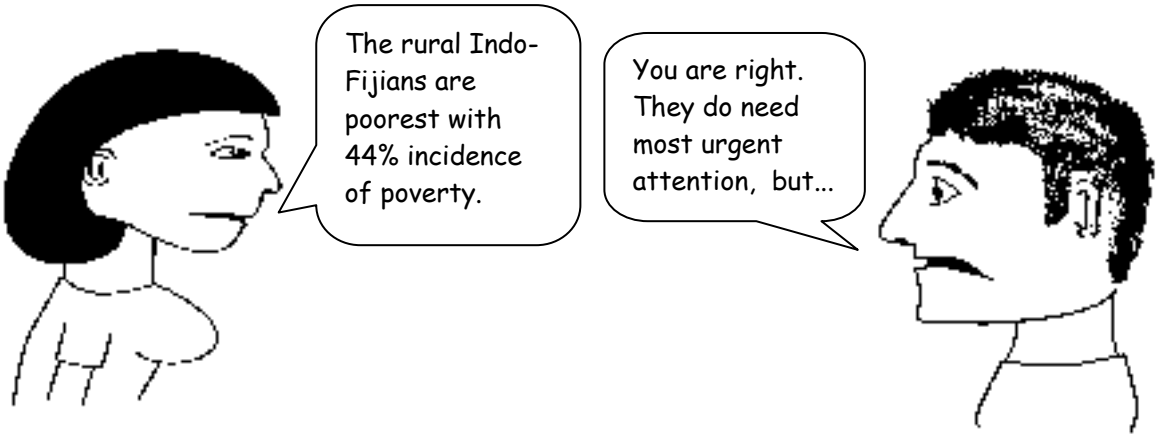
The incidence of poverty is extremely sensitive to the choice of the BNPL since the peak of households happen to be around the likely values. The national incidence of poverty in 2002-03 was around 34 percent, somewhat higher for Indo-Fijians (39 percent) than Fijians (32 percent).

In terms of the Poverty Gap, however, the fact that there are larger numbers of indigenous Fijians who are poor, means that the proportion of resources required to raise the poor of different ethnic groups above the poverty line, is still roughly in proportion to their overall shares in total population.

WHAT DO THESE POVERTY NUMBERS MEAN?

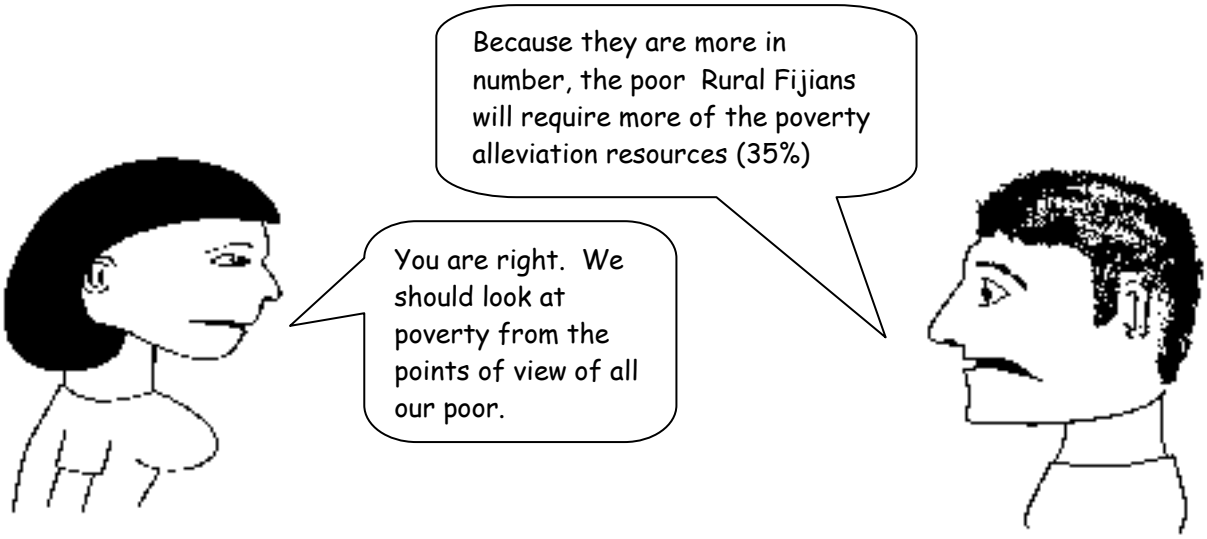
Which group is the "poorest"? *The Incidence of Poverty*

Rural Indo-Fijians: 44% Rural Fijians: 38%



Who needs more poverty alleviation resources?: *The Poverty Gaps*

Rural Indo-Fijians: 24% Rural Fijians: 35%



Chapter 7

Income Distribution Issues: ethnic and regional comparisons

While the analysis of poverty naturally focuses on the poor themselves, a fuller understanding of the broader context of poverty in a particular society is obtained by observing the conditions of the poor in relation to those who are not poor. One particularly useful perspective is obtained by examining what resources accrue to the poor in relation to what accrues to the rest of society. This may for instance give a better idea of the possibilities of improving the condition of the poor were there to be a better distribution of resources.

The basic approach is usually to examine the decile distribution of total income and expenditure in the society. This section examines the distribution issues, by estimating Gini coefficients where appropriate, and giving other indicators such as the ratio of income shares of the Top 30 percent of the population to that earned by the Bottom 30 percent of the population. Ethnic comparisons are also made by examining average household incomes for population deciles, as well as other indicators such as Average Income per Working Adult.

7.1 Distribution of Income and Expenditure

Table 7.1 gives the distribution of total income and total expenditure in the population deciles with households ranked by Income pAE.

Table 7.1 Distribution of Income and Expenditure

PDec	Inc ($m)	Exp ($)	Inc (Perc)	Exp (Perc)
P Dec 1	46	63	2.3	3.7
P Dec 2	71	82	3.6	4.8
P Dec 3	91	93	4.5	5.5
P Dec 4	110	106	5.5	6.2
P Dec 5	135	122	6.8	7.2
P Dec 6	159	142	7.9	8.4
P Dec 7	192	165	9.6	9.7
P Dec 8	238	198	11.9	11.7
P Dec 9	308	257	15.4	15.1
P Dec top	650	471	32.5	27.7
All	1998	1698	100.0	100.0
Bot 3	207	237	10.4	14.0
Top 3	1196	925	59.8	54.5
T3:B3			5.8	3.9

The Bottom 3 deciles have only 10.3 percent of total recorded household income but 14 percent of recorded expenditure. These percentages are likely to be over-stated, given that the norm for household surveys is that private sector incomes are usually under-stated, especially at the upper end.

The top 3 deciles (PD8, PD9 and PD top) are indicated to have 59.8 percent of recorded income and 54.3 percent of recorded expenditure. These percentages are likely to be understated for the same reason.

As is usually the case, income is more unevenly distributed than expenditure.[105] The ratio of the top 3 deciles' income to the bottom 3 deciles is 5.8 while that for expenditure is a much lower 3.9.

7.2 Gini Coefficients

A popular measure of overall group distribution of income or expenditure is the "Gini Coefficient", which is one number, ranging between 0 and 1. A value of 0 would represent a perfectly equal distribution, whereby 10 percent of the group, ranked by income per capita or income per Adult Equivalent, has 10 percent of the resources, 20 percent of the group has 20 percent of the resources etc. A value of 1 would represent a perfectly unequal distribution with basically all the group having no resources and one member having all the resources.

The Gini Coefficient may be calculated for any group in a number of different ways depending on the household income ranking criterion, the group definition, resource flow definition, and the actual method of calculating the Gini (such as the "smooth" Gini or the "Lower Bound Gini"[106]. Previous studies by Stavenuiter (1983) and Ahslburg (1995, 1996) have given Gini analyses and results, some of which have not made clear these distinctions.

Table 7.2 Gini Coefficients (all households)

Ranked by	Population	Households
HH Income	0.36	0.40
Income pc	0.42	0.33

The ranking criterion may be different and can have a major impact on the results. To enable comparisons with previous poverty analysis in Fiji, households are from here on ranked by Household Income or Household Income per capita.[107] Readers are reminded that it is ranking by Income per capita (or Income per Adult Equivalent) which more accurately ranks households from "poorest" to "richest".

The group proportion with a particular share of resources may also be differently calculated: by percentage of households, or percentage of total population. There may clearly be an impact of household size, if the poor and the rich households have significant differences in average household size. The resource flow could refer to income or expenditure, although income is the flow focused on here.

In some previous studies, it has not been clarified whether the Gini Coefficient has been estimated as a "Lower Bound Gini" from decile shares of income or expenditure, or as the more accurate Gini derived from the primary data at the household level. The latter method has been used to derive the Gini coefficients presented here, unless otherwise stated. "Lower Bound Ginis" (LBGs) are specified where used.

Table 7.2 gives the Gini coefficients for all Fiji households. For shares of population, ranking by Total Household Income gives the lowest Gini (0.36) while ranking by Income pc gives a higher Gini (0.42).

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[105] The Lower Bound Gini for Income is 0.405 and for Expenditure is 0.331.

[106] If Y_1, Y_2, Y_3, to Y_{10} is the cumulative distribution of income and $S = Y_1 + Y_{2+} Y_{3+}. ... Y_{10}$, then the LBG = (550-S)/500

[107] Ranking by Income per Adult Equivalent gives very similar Gini coefficients to that obtained by the Income per capita ranking of households.

The changes in Gini in going from shares of population to shares of households are complex given the significant impact of the different ethnic components of the Fiji population (Fijians, Indo-Fijians and Others), and significant differences amongst them in household sizes.

Table 7.3 Ginis by ethnicity

	Population	Households
Ranked by Total Household Income		
Fijian	0.33	0.38
Indo-F	0.38	0.41
Others	0.42	0.44
Ranked by Income pc		
Fijian	0.40	0.30
Indo-F	0.43	0.36
Others	0.42	0.44

Table 7.3 indicates that by all three rankings and by both groups shares (shares of population and shares of households), Fijians have a far more equal distribution of resources than Indo-Fijians, while Others are the most unevenly distributed of all. Thus ranked by Total Household Income, the Gini (Population/Income) was 0.33 for Fijians, 0.38 for Indo-Fijians and 0.42 for others. Ranked by Income per capita, the Gini coefficients (Population/Income) are all higher than the previous set: 0.40, 0.43 and 0.42 respectively for Fijians, Indo-Fijians and Others, but with the same relativities.

Table 7.4 Ginis by Rural/Urban

	Population	Households
Ranked by Total Household Income		
Rural	0.32	0.37
Urban	0.36	0.40
Ranked by HH Income pc		
Rural	0.39	0.30
Urban	0.42	0.34

Table 7.4 gives the Gini Coefficients for rural and urban areas. As would be expected, the Urban distributions all have higher Gini coefficients, by both rankings, and shares of both groups. Ranked by Total Household Income the rural Gini using shares of population was 0.32 compared to 0.36 for Urban households. Ranked by Income per capita, the Ginis were 0.39 and a higher 0.42 respectively for rural and urban households.

Table 7.5 Ethnic Distribution of Persons in Population Deciles

Pop Dec	Fijian	Indo-F	Others	Fiji
P Dec 1	10.3	9.8	8.2	10.0
P Dec 2	9.5	10.9	7.3	10.0
P Dec 3	10.8	9.7	3.0	10.0
P Dec 4	10.4	9.4	10.7	10.0
P Dec 5	9.0	11.5	7.9	10.0
P Dec 6	9.6	10.9	6.7	10.0
P Dec 7	10.3	9.6	9.6	10.0
P Dec 8	10.3	9.5	12.3	10.0
P Dec 9	10.3	9.1	15.1	10.0
P Dec top	9.4	9.8	19.1	10.0
All	100.0	100.0	100.0	100.0
Bottom 3	30.6	30.4	18.6	30.0
Top 3	30.0	28.3	46.5	30.0

Table 7.6 Rural/Urban Distribution of persons in Population Deciles

Pop Dec	Rural	Urban
P Dec 1	13.9	5.3
P Dec 2	12.5	6.9
P Dec 3	11.6	8.0
P Dec 4	10.8	9.1
P Dec 5	11.2	8.5
P Dec 6	9.3	10.8
P Dec 7	8.8	11.5
P Dec 8	8.3	12.1
P Dec 9	7.7	12.8
P Dec top	5.9	15.0
All	100.0	100.0
Bot 3	38.0	20.2
Top 3	21.9	39.9

Table 7.5 gives the ethnic distribution of population in population deciles PD 1, PD 2 etc. with 10 percent of the total population of Fiji in each decile, with households ranked by Income per Adult Equivalent. It is readily seen that Fijians and Indo-Fijians have a very similar pattern of distribution, with roughly 30 percent of each group in the Bottom 3 deciles. Fijians also have 30 percent in the Top 3 deciles, with Indo-Fijians in 2002-03 having a slightly lower 28 percent.[108] Others however have a much lower 18.6 percent in the Bottom 3 deciles, and a much higher 46.5 percent in the Top 3 Deciles.

As would be expected, the rural areas have a much higher proportion in the Bottom 3 deciles (38 percent) and lower proportion in the Top 3 deciles (22 percent) while the Urban areas have the converse: a lower 20 percent in the Bottom 3 deciles, and a higher 40 percent in the top 3 deciles (Table 7.6).

7.3 Ethnic Comparisons: Importance of Demographic Factors

In Fiji, inter-ethnic comparisons of incomes is always at the forefront, because of the political sensitivity of differential ethnic access to national resources. In Table 7.1 we have seen that the distributions of the two major ethnic group populations are very similar throughout the deciles, and especially for the Bottom 3.

Within each decile, the Average Household Income pAE would be expected to be roughly the same (except for the bottom and top deciles where extreme values may have their influence). Table 7.7 illustrates this. For 90 percent of the population and for the two major ethnic groups, there is virtually no difference in Household Income pAE.

Table 7.7 Av. HH Income pAE pa ($) and Diff. from Decile Average (by ethnicity)

	Aver Household Income pAE pa ($)				Perc.Diff from Decile Av.		
PDec	Fijian	Indo-F	Other	All	Fijian	Indo-F	Other
PD 1	717	718	761	719	0	0	6
PD 2	1122	1116	1151	1120	0	0	3
PD 3	1430	1429	1417	1430	0	0	-1
PD 4	1740	1738	1727	1739	0	0	-1
PD 5	2076	2080	2134	2080	0	0	3
PD 6	2458	2464	2442	2460	0	0	-1
PD 7	2953	2955	2967	2954	0	0	0
PD 8	3595	3624	3631	3608	0	0	1
PD 9	4724	4690	4907	4723	0	-1	4
PD top	8787	10297	12634	9728	-10	6	30
All	2958	3108	4628	3094	-4	0	50

This is an extremely critical finding for the national political discourse: ***Nine-tenths of the indigenous Fijian population and the Indo-Fijian population share very***

[108] This is largely to be explained by the large numbers of better qualified and hence better paid Indo-Fijians who have emigrated after the coups of 1987 and 2000.

similar standards of living. Only at the top ten percent of the population, does the Indo-Fijian average indicate a 4 percent advantage over the decile average, and the Fijian average indicate a 10 percent disadvantage.

It is also important to take cognizance of the fact that standards of living (eg as measured by Income per Adult Equivalent) also reflect the household size, and not just what is earned by the working adults in the households. The latter is a more accurate reflection of what working people in the household are receiving from the economy. Table 7.8 indicates that for all nine bottom deciles, the Average Household Income per Potential Working Adult (aged 15 to 55) for Fijians is higher than the decile average, by between 3 percent to 5 percent. Conversely, the Indo-Fijian Average Household Income per Working Adult is less than the decile average by between 4 percent to 7 percent.

It is only at the top decile, is there a 10 percent disadvantage for Fijian households, and a positive 5 percent advantage for Indo-Fijian household, and a large 35 percent advantage for Other households.[109]

Thus, for 90 percent of the households, Fijian working adults are receiving more (3 percent to 5 percent) than the decile averages, Indo-Fijian working adults are receiving less (3 percent to 7 percent) than the decile average. It is only at the top decile that the relativities are reversed.

It is important to understand that the factor that takes the situation indicated by Table 7.8 to that indicated by Table 7.7 (which is central to poverty analysis) is the number of dependents per household, and the major differences are due especially to the numbers of children per household.

Table 7.8 Aver. HH Income per Working Adult (15 to 55) and percent Diff. from Dec. Av.

	Average HH Income per Working Adult (15 to 55)				Perc Dif from Decile Av.		
PDec	Fijian	Indo-F	Other	All	Fijian	Indo-F	Other
PD 1	1121	1040	1245	1090	3	-5	14
PD 2	1747	1578	1869	1669	5	-5	12
PD 3	2200	1993	2023	2109	4	-6	-4
PD 4	2677	2446	2423	2569	4	-5	-6
PD 5	3096	2887	2995	2988	4	-3	0
PD 6	3612	3326	3526	3471	4	-4	2
PD 7	4304	3895	3951	4113	5	-5	-4
PD 8	5081	4696	4883	4908	4	-4	-1
PD 9	6847	6037	6815	6504	5	-7	5
PD top	11774	13723	17598	13047	-10	5	35
All	4374	4233	6561	4408	-1	-4	49

[109] The actual advantage for Indo-Fijians and Others at the top decile level is probably much greater than indicated by the numbers here because of the very likely and significant under-reporting of incomes by upper income brackets especially in the Commercial sector (which is dominated by Indo-Fijians and Others

Table 7.9 indicates two significant national differences. First, at all decile levels, the average Fijian working adult has significantly higher number of dependents than do Indo-Fijians, amounting to 42 percent on average nationally.

Table7.9 Dependents (0-14, >54) per Working Adult (15-54)

PDec	Fijian	Indo-F	Other	All	Perc Diff (Fij-Ind)
PD 1	0.94	0.70	0.92	0.83	34
PD 2	0.93	0.67	0.93	0.81	38
PD 3	0.89	0.66	0.78	0.79	35
PD 4	0.91	0.66	0.72	0.80	37
PD 5	0.81	0.60	0.73	0.70	35
PD 6	0.81	0.54	0.79	0.68	49
PD 7	0.77	0.51	0.55	0.65	51
PD 8	0.70	0.46	0.54	0.59	52
PD 9	0.77	0.44	0.64	0.62	76
PD top	0.58	0.48	0.64	0.54	21
All	0.81	0.57	0.68	0.70	42
Bot 3	0.92	0.68	0.90	0.81	35
Top 3	0.68	0.46	0.61	0.58	48
Perc Diff (B3-T3)	34	47	48	38	

For Fijian households therefore, their advantage of higher incomes per working adult are neutralised by the fact that they have a higher number of dependents. This is entirely a personal individual and household choice.

Put alternatively, without the extra number of dependents per household, Fijian households would be deemed to be much better off than they currently are for 90 percent of the households. It is somewhat odd, therefore, that there have been recent calls by some provincial Fijian leaders for Fijian families to increase the number of children they have.[110]

It may be noted that for the top 3 deciles, the Fijian rate of dependency is 42 percent higher than for Indo-Fijians: the well-off Fijians are also more disadvantaged than the well-off Indo-Fijians because of higher expenditure requirements (hence probably leading to lower savings and accumulation).

Clearly, the number of dependents per household is a critical factor resulting in the apparent parity in living standards (and poverty) between the two major ethnic groups, and between those in the lower deciles and the upper deciles.

Any group of households which has to support 42 percent more dependents than another group, must be at an economic dis-advantage in terms of living standards. Without these demographic factors, some 90 percent of the indigenous Fijian households are better off than 90 percent of the Indo-Fijian households (as indicated by Table 7.8). Only at the top 10 percent of the population, are indigenous Fijians at a disadvantage.

It should be noted that such significant differences in financial burdens between the ethnic groups, over a sustained period of time such as fifty or a hundred years, must inevitably translate into equally significant differences in the accumulation of income and wealth. This can be easily modelled with very simple arithmetic.

[110] This call was made by the Lomaiviti Provincial Council based on falling student enrolments in Lomaiviti. It is unclear whether this is a result of declining Fijian fertility in Lomaiviti or simply a result of the migration of Fijian students to the mainland for access to better education.

The already disadvantaged situation for indigenous Fijians is worsened considerably when one also takes into account the equally significant ethnic differentials in the "net giving" by households, with Fijians (especially Rural Fijians) giving away a much higher proportion of their income than others (see Chapter 8 below).

It should be noted also that for all ethnic groups, the dependency ratio for the Bottom 3 deciles is significantly higher than the dependency ratio for the Top 3 deciles: for Fijians it is 34%, but for Indo-Fijians it is a much higher 47 percent. In aggregate for Fiji, the Bottom 3 deciles have a 38 percent higher dependency ratio than the Top 3 deciles. For all groups, the richest 30% owe their "richness" partly to the fact that they have much fewer dependents.

Box 7.1 Comparing the incomes of Fijian and Indo-Fijian households

Ranked by Income per Adult Equivalent, ninety percent of the Fijian population have similar average Income pAE to Indo-Fijian households (as would be expected). The only difference is at the top (10^{th} decile where the Fijian average is 10 percent less and the Indo-Fijian average is 6 percent more than the decile average.

However, the ethnic uniformity for the bottom ninety percent of the population is due entirely to household size. For the lower nine deciles, the Income per potential Income Earner is higher for Fijians by some 4 percent than the decile average, while it is some 4 percent lower for Indo-Fijians. Again, the relativity is reversed only at the top 10 percent of the population.

At every decile level, on average, Fijian households support some 42 percent more dependents than do Indo-Fijian households. This is a large part of the explanation of the poverty of Fijian households and inability to accumulate. The other factor is that Fijian households give away a much higher proportion of their income than non-Fijian households.

For both Fijian and Indo-Fijian households, the Bottom 3 deciles, compared to the Top 3 deciles, have 34 percent and 47 percent more dependents, a common factor explaining poverty and wealth for both ethnic groups.

7.4 Income Distribution by Source of Income

Table 7.10 gives the vertical distribution of the various sources of income amongst the population deciles.[111] The last row gives the horizontal distribution of the incomes reported to the 2002-03 HIES with Permanent Income sources comprising the largest proportion- some 42.6 percent.

[111] These are actual income sources. Elsewhere in our poverty analysis, households were labeled by their major source of income, but other income sources would have been included in these households.

As expected, Home Consumption is well distributed throughout the deciles[112] The ratio of the Top 3 to the Bottom 3 is a low 1.2. The Bottom 3 deciles earned 26.4 percent of this source of income- the highest for all the income sources.

The distribution of Casual Wages is also fairly uniform with a LBG of 0.15, and a ratio of 2 for the Top 3 to Bottom 3 shares. These distribution characteristics are almost replicated by the distribution of Agricultural Income.

The most uneven distribution of income sources are Business Income and Permanent Wages, in that order, with the ratios of the Top 3 deciles' share to that of the Bottom 3 being an extremely high 20 for both.

The ratio is probably much higher for Business Income in reality, because of the likely serious under-reporting of this income source. For both these income sources, the Top 3 deciles garner more than 70 percent of their total income.

Table 7.10 Distribution of sources of income (vert. percentages)

Data	Home Consump	Casual Wages	Agric. Busin.	Other Income	Perm. Wages	Busin. Income	All
PD 1	7.2	3.6	4.5	3.2	0.4	0.8	2.3
PD 2	8.5	7.1	6.0	4.1	1.3	1.2	3.6
PD 3	10.7	8.2	8.1	4.8	2.0	1.9	4.5
PD 4	9.8	9.8	8.3	5.5	3.4	3.0	5.5
PD 5	11.8	10.7	11.9	6.5	4.3	3.7	6.8
PD 6	9.1	11.9	10.0	7.4	7.1	4.6	7.9
PD 7	10.6	11.8	13.2	9.1	8.5	8.1	9.6
PD 8	10.5	11.5	11.2	11.7	13.0	9.6	11.9
PD 9	9.5	10.7	12.6	15.4	18.9	12.1	15.4
PD top	12.3	14.7	14.2	32.4	41.3	55.1	32.5
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bot 3	26.4	18.8	18.6	12.0	3.7	3.8	10.4
Top 3	32.3	37.0	38.1	59.5	73.2	76.8	59.8
T3:B3	1.2	2.0	2.1	4.9	20.0	20.2	5.8
Share of Total Inc.	7.6	11.4	9.8	7.6	42.6	7.3	100.0

7.5 Divisional Distribution

Table 7.11 gives the divisional distribution of income. The last row indicates that some 48 percent of all income is earned in the Central Division, with the Western Division not far behind with 35 percent.

[112] Note that the percentages of population within each income source would not be 10 percent deciles.

Table 7.11 Divisional Distribution of Total Reported Income

PDec	Central	Eastern	Northern	Western	All
PD 1	1.2	2.0	7.0	2.3	2.3
PD 2	2.1	2.8	8.5	4.0	3.6
PD 3	2.9	6.6	7.9	5.2	4.5
PD 4	3.9	7.0	8.4	6.5	5.5
PD 5	5.2	5.5	9.3	8.2	6.8
PD 6	7.5	4.4	8.3	9.0	7.9
PD 7	9.6	9.8	8.0	10.1	9.6
PD 8	13.0	8.8	12.0	11.0	11.9
PD 9	18.0	13.8	11.2	13.6	15.4
PD top	36.6	39.4	19.4	30.2	32.5
All	100.0	100.0	100.0	100.0	100.0
Bottom 3	6.2	11.3	23.4	11.5	10.4
Top 3	67.5	62.1	42.7	54.7	59.8
T3:B3	10.9	5.5	1.8	4.7	5.8
Share of Total Inc.	48	6	12	35	100

The Central Division also had the most uneven distribution of income with a Top 3 to Bottom 3 ratio of 10.9. The most even distribution was in the Northern Division with a Top 3:Bottom 3 ratio of only 1.8.

7.6 Conclusion

This chapter has produced evidence to largely substantiate the patterns of distribution of income and expenditure that have prevailed over the years in Fiji: income is more unevenly distributed than expenditure; income is more unevenly distributed amongst Others, Indo-Fijians and Fijians in that order; and urban incomes are more unevenly distributed than rural incomes.

Comparing the two major ethnic groups in deciles ranked by Income per AE, measuring by average income per potential Working Adult, indicates that 90 percent of Fijian households are better off than 90 percent of Indo-Fijian households.

It is only at the top decile that the Indo-Fijian average exceed the Fijian average.

Thus the larger household size and number of dependents of Fijians is the great leveller for the majority of the households, and the smaller household size of Indo-Fijians one factor explaining the higher standard of living.

Chapter 8

The Condition of the Poorest 30 percent of the Population

8.1 Introduction

The incidence of poverty, Poverty Gaps and distribution parameters such as Gini coefficients give very "aggregative" and perhaps simplified perspectives on the nature of poverty. We have seen in the first chapter that the current approach to understanding the true nature of poverty requires a thorough multi-dimensional approach, involving all the factors that go towards ensuring a "decent standard of living".

This chapter draws on the further household information available in the 2002-03 HIES to add different dimensions to the poverty picture in Fiji by giving a "living standards" snapshot of the poorest 30 percent of the people in Fiji- i.e those people in the lowest Deciles 1, 2 and 3 with households ranked by Income per Adult Equivalent.[113] With the national incidence of poverty estimated to be around 35 percent, the Bottom 30 percent of the population may be reliably defined as "poor".

Giving data only on the bottom 30 percent of the population can encourage unreasonable comparisons with international standards, when what is more relevant for policy makers is to understand the relative deprivation of the poor, in relation to what is enjoyed by the "non-poor". To that end where possible, the tables give statistics for the Bottom 30 percent, the Middle 40 percent and the Top 30 percent of the population.

Table 8.1 Distribution of Bottom 3 Decile Population

	Numbers	Perc.
Fijian	128618	56
Indo-Fij	95633	41
Others	6235	3
Rural	160417	70
Urban	70068	30
Central	63246	27
Eastern	14473	6
Northern	65348	28
Western	87419	38
Bottom 3	230485	100

Thus this chapter outlines the income earning characteristics of the "poor" households (their state of employment, paid, unpaid, household work), their spending and savings behaviour: access to loans, expenditure on food, education, and medical expenses. This section also outlines the access of the poor households to quality housing, transport vehicles, water, electricity, sewerage, refrigerators, television, and computers- all of which go towards defining the broad standard of living of the persons in the households. Looked at from these different perspectives, it will be seen that there are significant

[113] The study was initially inclined to define the "Poor" as the Bottom 20 percent in order to facilitate comparison with the Poorest 20 percent analysed in the 1997 Fiji Poverty Report. However, the relevant tables in the 1997 FPR (Chapter 5) are fundamentally flawed as they refer to 20 percent of the population ranked by total household income, and not as ranked by income per capita or income per adult equivalent (see Annex 1 for a detailed explanation).

differences between the poor of different ethnic groups, between rural and urban poor and between divisions.

Table 8.1 gives the distribution of the poorest 30 percent of the population nationally. The proportions of the ethnic poor are roughly as in the total population at large (56 percent Fijians, 41 percent Indo-Fijians and 3 percent others). Some 70 percent are in Rural areas, compared to only 30 percent in Urban areas, and the largest proportion (38 percent) in the Western division.

Table 8.2 Working for Money as Percent of Those 15 to 55

	Bot 3	Mid 4	Top 3	All
Rur Fijian	43	49	58	49
Rur Indo-F	40	52	60	49
Rur Other	36	37	77	45
Rural All	42	50	59	49
Urb Fijian	33	43	55	46
Urb Indo-F	35	50	60	51
Urb Other	29	43	60	51
Urb All	34	47	58	49
FIJI	39	48	58	49
Fijian	40	47	57	48
Indo-Fij	38	51	60	50
Others	33	41	62	50

8.2 Labour Market Conditions

Table 8.2 indicates that while roughly a half of all those between the ages of 15 and 55 Worked for Money, only 39 percent of the Bottom 3 deciles did so. What is unusual is that 42 percent of those in the Bottom 3 deciles in rural areas worked for money, compared to a lower 34 percent of those in the Urban areas. The differences between the two major ethnic groups do not appear significant.

Table 8.3 indicates that some 49 percent of all those aged 15 to 55 in the Bottom 3 deciles worked for subsistence, compared to 39 percent in the Middle 4, and 28 percent in the Top 3 deciles. As might be expected, the percentages are all high in the rural areas, with 74 percent of Rural Fijians in the Bottom 3 deciles working in subsistence sector, as opposed to only 38 percent of rural Indo-Fijians.

Table 8.3 Subsistence Workers as Percent of Those 15 to 55

	Bot 3	Mid 4	Top 3	All
Rur Fijian	74	69	55	67
Rur Indo-F	38	35	38	37
Rur Other	79	51	57	61
Rural All	60	56	50	56
Urb Fijian	32	27	21	25
Urb Indo-F	21	16	8	14
Urb Other	18	25	13	17
Urb All	25	21	14	19
FIJI	49	39	28	38
Fijian	63	53	38	51
Indo-Fij	31	24	17	24
Others	47	35	18	29

It is worth noting that some 25 percent of this age group in the Bottom 3 deciles in the Urban areas also worked for subsistence, compared to 21 percent in the Middle 4 and 14 percent in the in the top 3 deciles.

Table 8.4 indicates that some 13 percent of the potential workers were Unpaid Workers in the Bottom 3 deciles, compared to 9 percent in the Middle 4, and 5 percent in the Top 3 deciles.

Table 8.4 Unpaid Workers percent of Those 15 to 55

	Bot 3	Mid 4	Top 3	All
Rur Fijian	25	23	15	22
Rur Indo-F	9	5	5	6
Rur Other	40	12	12	20
Rural All	18	16	12	16
Urb Fijian	1	1	1	1
Urb Indo-F	0	0	0	0
Urb Other	0	1	3	2
Urb All	1	1	1	1
FIJI	13	9	5	9
Fijian	19	15	8	14
Indo-Fij	5	2	1	3
Others	19	5	4	7

The problem of unpaid workers is much more important in the rural sector (18 percent of the Bottom 3 deciles) rather than the Urban sector (1 percent).

It is also more a problem for Rural Fijians in the Bottom 3 deciles, of whom a full 25 percent were Unpaid workers, compared to 15 percent in the Top 3 deciles. The proportion for Rural Indo-Fijians is also much lower (9 percent), than that for Rural Fijians.

Table 8.5 indicates that there is no particular tendency for those in the Bottom 3 deciles to have an higher proportion of the 15 to 55 designated as working on Home Duties- by urban/rural or ethnic differentiation, although Indo-Fijians generally have a higher proportion at all decile levels.

Table 8.5 Percentage of 15 to 55 on Home Duties

	Bot 3	Mid 4	Top 3	All
Rural All	20	22	20	21
Urban All	23	24	19	22
FIJI	21	23	19	21
Fijian	17	20	17	18
Indo-Fijian	25	26	23	25
Others	22	19	15	18

The Bottom 3 deciles do have a higher percentage of formally unemployed, with 8 percent, compared to 6 percent for the Middle 4 and 4 percent for the Top 3 deciles.

Quite unusually, those defined as “unemployed” in the rural areas, were evenly scattered throughout the deciles. In the urban areas, however, the those in the Bottom 3 deciles had a distinctly higher rate of unemployment (some 15 percent on average) than did those in the Middle 3 deciles (9 percent) and the Top 3 deciles (5 percent).

Table 8.6 Unemployed as percent of Those 15 to 55

	Bot 3	Mid 4	Top 3	All
Rur Fijian	4	3	3	3
Rur Indo-F	6	6	3	5
Rur Other	0	2	0	1
Rural All	5	4	3	4
Urb Fijian	17	12	8	11
Urb Indo-F	13	6	3	6
Urb Other	19	8	5	7
Urb All	15	9	5	8
FIJI	8	6	4	6
Fijian	7	6	5	6
Indo-Fij	9	6	3	6
Others	10	6	4	6

These percentages need to be taken cautiously, as the results of the 2004-05 Employment and Unemployment Survey indicate that amongst the supposedly "employed" persons, there are large proportions of under-employed persons. The national effective rate of unemployment is closer to 26 percent than the 5 percent typically stated, with Fijians having an effective rate of unemployment of 31 percent and Indo-Fijians 21 percent.

8.3 Income, Expenditure, Savings

Table 8.7 indicates that the average incomes in the Middle 4 deciles is only roughly twice the average of the Bottom 3 deciles, while the Top 3 deciles average is around 5 times that of the Bottom 3.

There is little difference between the major ethnic groups, and between Rural and Urban relativities.

Table 8.7 Income pAE pw ($) and Ratio T3:B3

	Bot 3	Mid 4	Top 3	All	T3:B3
Rur Fijian	33	67	150	76	4.6
Rur Indo-F	29	61	147	65	5.1
Rur Other	34	55	168	71	5.0
Rural All	31	65	150	72	4.8
Urb Fijian	32	64	153	97	4.7
Urb Indo-F	31	60	162	94	5.3
Urb Other	29	66	209	146	7.3
Urb All	31	62	163	98	5.2
FIJI	31	63	158	85	5.0
Fijian	33	66	152	84	4.6
Indo-Fij	30	61	158	81	5.3
Others	31	62	205	126	6.6

Table 8.8 gives the corresponding data for Expenditure pAE pw by the three groups. As is usually the case, the ratio between the Top 3 and the Bottom 3 are much lower than for Income- 3.4 compared to 5.0.

Table 8.8 Expenditure pAE pw ($) and Ratio T3:B3

	Bot 3	Mid 4	Top 3	All	T3:B3
Rur Fijian	36	59	115	65	3.1
Rur Indo-F	35	50	87	51	2.5
Rur Other	39	41	132	59	3.4
Rural All	36	55	106	60	3.0
Urb Fijian	35	56	125	82	3.5
Urb Indo-F	37	60	131	83	3.6
Urb Other	30	70	165	121	5.6
Urb All	36	59	132	85	3.7
FIJI	36	57	122	72	3.4
Fijian	36	58	120	72	3.3
Indo-Fij	36	56	119	69	3.3
Others	34	59	161	105	4.7

The expenditure levels for the Bottom 3 deciles are much higher than the income levels given in Table 8.6. The expenditure levels for the different ethnic groups (both urban and rural) are roughly the same, except for Rural Indo-Fijians.

However, the ratio between the Top 3 and Bottom 3 for Rural Indo-Fijians is considerably lower (2.5) than for the other groups. Table 8.9 gives the result expected given the data in Tables 8.6 and 8.7 – that there is considerable dis-saving at the Bottom 3 deciles. What is unusual is the very high dis-savings for Indo-Fijians in the Bottom 3 deciles – average of -17 percent in both Rural and Urban areas. In both rural and urban areas, Fijian households in the Bottom 3 deciles have a lower dis-savings rate (or higher savings rate) than Indo-Fijians.

This is contrary to the general perception amongst Fijian political leaders, who have attempted in recent years to encourage higher savings amongst Fijians.

Table 8.9 Savings Ratio (percent)

	Bot 3	Mid 4	Top 3	All
Rur Fijian	-10	13	31	17
Rur Indo-F	-17	23	69	28
Rur Other	-13	34	28	22
Rural All	-13	17	41	20
Urb Fijian	-8	15	23	18
Urb Indo-F	-17	0	23	13
Urb Other	-3	-6	27	20
Urb All	-13	5	24	16
FIJI	-13	11	29	18
Fijian	-10	14	27	17
Indo-Fij	-17	9	33	18
Others	-8	4	27	21

8.4 Loans taken

Table 8.10a gives data on Loans taken out by each household. What is clear is the very sharp contrast between rural and urban households, and at all decile levels, the difference between Fijian households and Indo-Fijian households.

The rural Fijians in the Bottom 3 deciles have a very low $12 of loans per households, although rural Indo-Fijians have a bit higher $230. In the urban areas however the poor seem to take on quite heavy financial burdens.

Table 8.10a Loans per Household ($)

	Bot3	Mid4	Top3	All
Rur Fij	12	28	157	62
Rur Ind	230	223	577	307
Rur Oth	0	28	111	41
Rural All	102	99	286	151
Urb Fij	791	720	1246	975
Urb Ind	929	1105	1783	1354
Urb Oth	1012	1873	2396	2126
Urb All	880	1007	1636	1267
FIJI	341	516	1081	671
Fijian	189	256	648	378
Indo-Fij	499	735	1427	905
Others	453	1243	2113	1591

Table 8.10b gives the size of the loans in the context of overall household expenditure. In aggregate, the Loans of the Bottom 3, Middle 4 and Top 4 all were 6 percent of expenditure. However, this equivalence hides the major regional differences.

Urban households in the Bottom 3 all have a much higher percentage of expenditure as loans- 14 percent for the Bottom 3, compared to 11 percent for the Middle 4 and 9 percent for the Top 3. For Indo-Fijians households in the Bottom 3 deciles, Loans were a very large 16 percent of their total expenditure compared to the 6 percent national average. In aggregate at all decile levels, Indo-Fijians (and Others) had three times as much borrowings as Fijians.

Table 8.10b Loans as Percent of Expenditure

	Bot3	Mid4	Top3	All
Rur Fij	0	0	1	1
Rur Ind	4	3	5	4
Rur Oth	0	0	1	0
Rural All	2	1	2	2
Urb Fij	12	7	6	7
Urb Ind	16	12	10	11
Urb Oth	17	17	10	12
Urb All	14	11	9	10
FIJI	6	6	6	6
Fijian	3	3	4	3
Indo-Fij	9	9	9	9
Others	8	13	10	10

Factors which may explain these differences are the propensities (consumerism) of different groups of households to seek loans for their expenditures (urban more than rural, Indo-Fijian more than Fijian), the ability of different groups to put up collateral in order to obtain loans (Indo-Fijians more than Fijians), and the extremely high levels of advertising by hire purchase companies that encourage consumers to take out loans, possibly beyond their capacity to service them.

Table 8.11 Food Expend. as percent of Income

	Bot 3	Mid 4	Top 3	All
Rur Fijian	58	42	26	36
Rur Indo-F	51	31	19	29
Rur Other	56	31	20	29
Rural All	56	38	23	34
Urb Fijian	42	29	19	23
Urb Indo-F	40	30	18	23
Urb Other	33	34	17	20
Urb All	41	30	19	23
FIJI	51	34	20	28
Fijian	54	38	22	31
Indo-Fij	46	30	19	25
Others	45	33	17	21

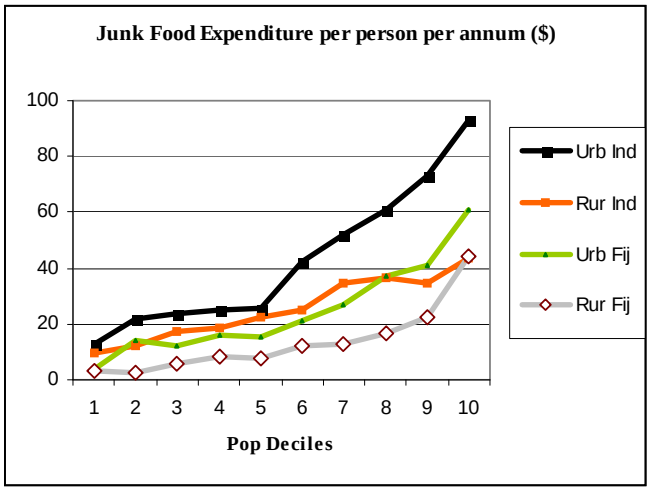
8.5 Food Expenditure

Table 8.11 gives the Food Expenditure as a Percentage of Household Income. Overall, the Bottom 3 deciles spend just more than a half (51 percent) of their household income on food, compared to 34 percent of the Middle 4 deciles, and 20 percent for the Top 3 deciles. Rural households in aggregate spend 34 percent of their income on food, compared to 23 percent for Urban households.

Fijian households in general spend 31 percent of their income on food, compared to 25 percent for Indo-Fijians. There is also a significant difference at the Bottom 3 deciles, where the percentages are 54 percent and 46 percent respectively. To some extent this ethnic difference will be explained partly by the fact that Fijian households on average are larger than Indo-Fijian households, at all decile levels.

8.6 Junk Food Expenditure[114]

Graph 8.1 Junk Food Exp. pc pa ($)



This is an interesting item of expenditure The per capita expenditure for the Urban Indo-Fijians and to a lesser extent Urban Fijians can be seen quite clearly to be flat for the first five deciles, after which the curves rise quite rapidly. This would suggest that only from about the fifth household on, do the households feel able to spend money on what may be regarded as "non-essential" item of expenditure like junk-food. This would suggest that those in poverty may well extend up to the 5th decile, or 45 percent of the population and of all the sub-groups.

[114] Junk food comprises snacks such as Bongos, Twisties, soft drinks, ice cream, lollies, etc.

8.7 Education Expenditure

Tables 8.12 indicates that Education Expenditure per Student for all groups in the Bottom 3 deciles are significantly below that by the Middle 4 and Top 3 deciles. There are major rural:urban differences and major ethnic differences.

What is unusual is that the poorest 30 percent of the country, spend a somewhat higher percentage of their total expenditure (3.1 percent) than that spent by the Middle 40 percent (2.8 percent) (Table 8.13) Indo-Fijian households in the Bottom 3 deciles, expend a higher proportion (3.8 percent) of their total expenditure on education, than those in the Middle 4 deciles (2.9 percent).

This proportion is also higher than that expended by Fijians (2.5 percent) and Others (3.2 percent). Note that these relativities exist despite the demographic fact that Indo-Fijians households have fewer children than Fijian households, hence Table 8.12 is the more appropriate table for inter-ethnic comparisons.

These differences may be partly explained by the lower state support for Indo-Fijian children in schools, and probably partly also by the higher emphasis of Indo-Fijian families on education for their children.

Table 8.12 Education Expend. per Student ($)

	Bot3	Mid4	Top3	All
Rur Fij	73	120	259	134
Rur Ind	120	182	305	173
Rur Oth	80	96	313	119
Rural All	91	138	272	147
Urb Fij	92	142	340	212
Urb Ind	129	195	769	370
Urb Oth	110	348	519	409
Urb All	112	180	531	299
FIJI	98	158	431	217
Fijian	78	128	301	164
Indo-Fij	123	189	634	280
Others	95	250	501	329

Table 8.13 Ed. Exp as Perc of Tot. Expend.

	Bot3	Mid4	Top3	
Rur Fij	2.4	2.3	2.3	2.3
Rur Ind	3.8	3.2	2.7	3.2
Rur Oth	2.4	2.9	1.8	2.3
Rural All	2.9	2.6	2.4	2.6
Urb Fij	3.1	2.9	2.8	2.9
Urb Ind	3.7	2.8	4.3	3.8
Urb Oth	4.2	6.1	3.0	3.6
Urb All	3.5	3.0	3.6	3.4
FIJI	3.1	2.8	3.2	3.0
Fijian	2.5	2.5	2.6	2.5
Indo-Fij	3.8	2.9	4.0	3.6
Others	3.2	5.2	2.9	3.4

8.8 Medical Expenditure

Table 8.14 gives the generally very low dollar medical expenditure per capita by the Bottom 30 percent of the population- a mere $17 per year, compared to the $50 spent by the Middle 40 percent and $196 by the Top 30 percent.

Fijian households in the Bottom 30 percent spend a much lower dollar amount ($8 per capita) than Indo-Fijians in the Bottom 30

Table 8.14 Medical Expend. pc pa ($)

	Bot3	Mid4	Top3	All
Rur Fij	6	28	194	59
Rur Ind	30	57	146	63
Rur Oth	5	30	354	79
Rural All	14	38	183	61
Urb Fij	16	60	180	100
Urb Ind	30	68	231	119
Urb Oth	22	64	193	134
Urb All	24	65	204	112
FIJI	17	50	196	84
Fijian	8	39	187	74
Indo-Fij	30	63	206	94
Others	13	52	210	118

percent ($30 pc). The differences in proportions of total expenditure (0.8 percent compared to 2.7 percent) are also significant.

Rural Fijians in the Bottom 30 percent particularly spend a very small amount on average medical expenditure ($6 pc) and 0.6 percent of their Total Expenditure. This low expenditure may be explained by several factors: lack of access to medical services and drugs, ease of access to subsidised rural health centres, lack of cash incomes, greater recourse to traditional medicines.

Table 8.15 Med.Exp.as Perc. of Total Exp.

	Bot3	Mid4	Top3	
Rur Fij	0.6	1.7	5.7	3.3
Rur Ind	2.8	3.6	5.0	3.9
Rur Oth	0.6	2.3	8.5	4.7
Rural All	1.4	2.4	5.6	3.5
Urb Fij	1.6	3.6	4.5	4.0
Urb Ind	2.6	3.3	4.8	4.2
Urb Oth	2.3	3.0	3.6	3.5
Urb All	2.2	3.4	4.5	4.0
FIJI	1.7	2.9	4.9	3.8
Fijian	0.8	2.4	5.0	3.6
Indo-Fij	2.7	3.4	4.9	4.1
Others	1.3	2.8	4.0	3.7

8.9 Net Gifts Given

Table 8.16 gives the Net Gifts Given as a Percentage of Household Income. Overall, the Bottom 3 deciles give away 6 percent of their income annually, compared to 4 percent for the Middle 4 deciles and 3 percent for the Top 3 deciles. What must be noted is that both Rural and Urban Indo-Fijian households give away just 1 percent or less of their income annually.

Table 8.16 Net Gifts Given as percent of Income

	Bot 3	Mid 4	Top 3	All
Rur Fijian	-12	-9	-7	-9
Rur Indo-F	-1	-1	-1	-1
Rur Other	-21	-3	-3	-6
Rural All	-8	-6	-5	-6
Urb Fijian	-3	-1	-2	-2
Urb Indo-F	0	-1	-1	-1
Urb Other	0	1	-1	-1
Urb All	-1	-1	-2	-1
FIJI	-6	-4	-3	-3
Fijian	-10	-6	-4	-6
Indo-Fij	-1	-1	-1	-1
Others	-10	-1	-1	-2

Urban Fijian households in the Bottom 3 deciles give away only 3 percent of their income, while Rural Fijian households in the Bottom 3 deciles give away an extremely large 12 percent of their income annually. Those that “have little” (the rural Fijians who are in the Bottom 30 percent of the country) appear to give proportionately more. This cannot but place an extremely strong downward pressure on rural Fijian savings, accumulation and wealth.

8.10 Housing Type

Table 8.17 indicates that more than 50 percent of the dwellings occupied by the Poor have walls constructed of iron, with only 17 percent of concrete. The percentages with wooden walls is fairly uniform across the deciles.

Table 8.17 Wall construction (vert. Perc)

	Bot3	Mid4	Top3	All
Concrete	17	31	53	35
Wooden	25	23	24	24
Iron	52	41	21	37
Bure	3	2	1	2
Others	3	2	1	2
All	100	100	100	100

8.11 Housing Tenure

Table 8.18 Tenure of Housing (Vert. Perc. of Occupants)

	Bot 3	Mid 4	Top 3	All
Own dwelling	84.2	81.2	66.5	77.7
Rented/privately	6.2	7.2	12.6	8.5
Govt./Institutional	0.7	3.5	11.4	5.0
Company	0.5	0.5	1.6	0.8
Housing Authority	0.4	1.3	0.8	0.9
Squatter	2.3	2.0	1.6	2.0
Other	5.5	4.4	5.5	5.1
All	100	100	100	100

Table 8.18 indicates that the Poorest 30 percent tend to have a higher proportion (84 percent) living in their own dwellings, compared to 81 percent for the Middle 40 percent and 67 percent for the Top 30 percent. These percentages are of course complementary to the percentages for those renting privately, or living in Government or Company provided quarters.

The squatter housing presents an interesting dimension (Table 8.19). While it might have been thought that the occupants of squatter households would mostly be in the bottom 30 percent, Table 8.19 indicates that they are quite well distributed: only 35 percent in the Bottom 3 deciles, 40 percent in the Middle 4 deciles, and a large 25 percent in the Top 3 deciles. Thus 65% of the squatter population were not in the Bottom 3 deciles. Both Indo-Fijians and Fijians were very similarly distributed throughout the Bottom 3, Middle 4 and Top 3 deciles.

Table 8.19 Occupants of Squatter Housing

Ethnicity	Bot 3	Mid 4	Top 3	All
Fijian	1854	1887	1167	4908
Indo-F	3433	4136	2570	10138
Other	108	77	13	198
All	5394	6100	3750	15244
	Vert percent			
Fijian	34	31	31	32
Indo-F	64	68	69	67
Other	2	1	0	1
All	100	100	100	100
	Hor percent			
Fijian	38	38	24	100
Indo-F	34	41	25	100
Other	55	39	7	100
All	35	40	25	100

There has been some concern in recent years that not all the people living in squatter housing are genuinely "poor", who should be given subsidies when squatter areas are developed for other purposes. The data here lends some credibility to this concern.

8.12 Water Supply

Table 8.20 indicates that only 27 percent of the rural population in the Bottom 3 deciles have what might be considered to be "safe" water – i.e. that is sourced from a metered supply. This is in contrast to 91 percent of the Urban people in the Bottom 3 deciles.

With some proportion of the communal standpipes possibly also coming from Public Works Department, the "safe" water supply may be higher to that extent.

It is worth noting that only 2 percent of the rural people in the Bottom 3 deciles use roof-tanks, as opposed to 9 percent of the Top 30 percent in the rural population.

Encouragement of roof-tanks may be investigated if roof-tanks are found to have cleaner water than wells, creeks and bore-holes.

Table 8.20 Source of Water Supply (Perc. of Population)

	Bot3	Mid3	Top3	All
	Rural			
A Metered	27	35	41	33
B Comm.Standpipe	38	34	30	35
C Roof-tank	2	4	9	5
D Borehole	4	5	4	4
E Wells	9	6	4	7
F River/Creek	5	4	2	4
G Others	14	11	11	12
	100	100	100	100
	Urban			
A Metered	91	96	96	95
B Comm. Standpipe	1	1	0	1
C Roof-tank	1	0	0	1
D Borehole	1	1	1	1
E Wells	1	0	0	1
F River/Creek	1	0	0	0
G Others	3	2	2	2
	100	100	100	100

8.13 Lighting

Table 8.21 indicates that while 65 percent of the households in the Bottom 3 deciles have electricity lighting, a very large 34 percent still use kerosene or benzene.

In the rural areas, only 58 percent of the Bottom 3 deciles have electricity as a light source, while 80 percent do in urban areas. Such rural:urban differences in access to good quality lighting cannot but have an impact on the ability of rural school children to study and read at home.

Table 8.21 Source of Electricity Supply (Perc. of Pop)

	Bot3	Mid4	Top3	All
	Rural			
A Electricity	58	70	82	68
B Kerosene/Benzene	40	29	16	31
C Solar	2	1	1	1
D Others	0	0	0	0
	100	100	100	100
	Urban			
A Electricity	80	91	98	92
B Kerosene/Benzene	20	9	2	8
C Solar	0	0	0	0
D Others	0	0	0	0
	100	100	100	100
	All			
A Electricity	65	79	92	79
B Kerosene/Benzene	34	20	8	21
C Solar	1	0	0	1
D Others	0	0	0	0
	100	100	100	100

8.14 Toilets

Table 8.22 indicates that nationally, of the poorest 30 percent of the population, only 37 percent enjoy flush toilets, compared to 60 percent for the middle 40 percent and 81 percent for the Top 30 percent.

Fully 33 percent of the population in the Bottom 3 deciles have pit toilets, with the middle 40 percent having 17 percent and the top 3 deciles having 6 percent.

In the rural areas, an even higher 38 percent of the Bottom 3 deciles use pit toilets. Of some concern is that in the urban areas (which might be expected to have access to sewerage services, 22 percent have pit toilets.

This may partly be a reflection of the large numbers of squatter population living in unsewered areas.

It is interesting that a very high 34 percent of the rural population use water-sealed toilets, which presumably are alternatives for those areas which are not sewered, and where people are currently using pit toilets.

Table 8.22 Type of Toilet (Perc. of Pop.)

	Bot3	Mid4	Top3	All
	Rural			
A Flush	26	44	62	41
B Water-sealed	34	32	25	31
D Pit	38	22	12	26
E Other	2	2	1	2
Rural All	100	100	100	100
	Urban			
A Flush	62	79	94	82
B Water-sealed	14	9	3	8
D Pit	22	10	2	9
E Other	2	1	0	0
Urban All	100	100	100	100
	All			
A Flush	37	60	81	59
B Water-sealed	28	22	12	21
D Pit	33	17	6	18
E Other	2	2	1	1
All	100	100	100	100

8.15 Cooking With Wood

Given the usual inconvenience of the typical open fires that are used in Fiji for cooking, one of the indicators of poverty is the proportion of households which cook with wood.

Table 8.23 indicates that some two thirds of all households do some cooking with wood, while 38 percent of all households in the Bottom 30 percent of the country cook only with wood. It may be noted that while the percentage using only wood is a high 46 percent in the rural areas, it is also a very significant 20 percent in the urban areas.[115]

Table 8.23 Perc of HH Cooking With Wood

	Bot3	Mid4	Top3	All
Cooking with wood				
Rural	97	94	79	91
Urban	63	44	24	38
All	86	71	47	66
Cooking only with wood				
Rural	46	26	13	29
Urban	20	9	4	9
All	38	18	8	20

Given the recent sharp increases in the price of fuel such as kerosene and cooking gas, there will be a tendency for greater use of firewood for cooking purposes.

Typically, most of this firewood is used outdoors in very simple fireplaces, often simply three blocks of concrete placed together. Such fire-places are extremely inefficient which being hazardous to health, causing both respiratory and eye diseases.

It would be useful for another national initiative to examine the use of more fuel-efficient wood-burning stoves. This might be extremely timely, given that Fiji is on the verge of major increases in logging volume, especially mahogany, giving rise to ample supplies of off-cuts. Such off-cuts, some of which would never be burned for firewood in poorer developing countries, are already being used extensively throughout Fiji for firewood.

[115] This explains the phenomenon of a very large number of urban outlets, including service stations, selling *dogo* firewood, with the volumes sold appearing to increase in recent months.

8.16 Cars and Trucks

Table 8.24 Perc. Of HH owning Cars

	Bot3	Mid4	Top3	All
	Rural			
Fijian	1	1	6	2
Indo-F	12	23	37	22
Other	0	6	15	6
Rural All	5	9	16	10
	Urban			
Fijian	8	9	22	15
Indo-F	19	24	53	35
Other	18	12	42	31
Urban All	15	18	40	27
	All			
Fijian	3	4	13	7
Indo-Fij	15	24	48	30
Others	8	10	39	25
Fiji	8	13	30	18

One of the indicators of improving standards of living is the ownership of private vehicles that provides some degree of independence from public transport. Table 8.24 indicates that by and large, the Bottom 30 percent of the population, enjoys a moderate degree of ownership of cars (8 percent) that compares quite favourably with that of the Middle 40 percent of the population (13 percent).[116]

There are however considerable differences between the Bottom 3 deciles in the rural (5 percent) and urban areas (15 percent). There are also significant ethnic differences in both rural and urban areas, with Indo-Fijians in the Bottom 3 deciles having five times the ownership (15 percent) of cars, compared to Fijians (3 percent).

Table 8.25 however shows that the ownership of trucks redresses some of the imbalances and indeed improves the situation for those in the Bottom 3 deciles. Unusually, Rural Fijians in the Bottom 3 deciles have a higher degree of ownership of trucks (9 percent) than either those in the Middle 4 deciles (4 percent) or the Top 3 deciles (2 percent).

Table 8.25 Perc. Of HH owning Trucks

	Bot3	Mid4	Top3	All
	Rural			
Fijian	9	4	2	5
Indo-F	10	11	21	13
Other	7	0	12	6
Rural All	10	7	8	8
	Urban			
Fijian	2	1	2	2
Indo-F	5	9	6	7
Other	4	4	2	3
Urban All	4	6	4	5
	All			
Fijian	8	3	2	4
Indo-Fij	8	10	10	9
Others	6	2	4	4
Fiji	8	6	6	6

This is probably due to two factors. First, the rural Fijians in the Bottom 3 deciles own trucks for the purposes of carting their produce to market. Second, Rural Fijians in the Middle 4 and Top 3 deciles are in occupations which probably give access to state owned vehicles.

The different ethnic patterns indicated in Tables 8.24 and 8.25 may also be partly explained by ethnic preferences of Indo-Fijians to own cars rather than trucks, as well as the type of roads that need to be driven on.

[116] Of course, there can be little comparison between the cars owned by the Bottom 30 percent of the population and those owned by non-poor.

8.17 Ownership of Fridges

The ownership of fridges is an important factor in improving the quality of life and cost-effectiveness of food purchases, through the preservation of perishable and cooked foods. The Bottom 30 of the population have quite a low ownership of fridges (only 30 percent) compared to the 51 percent for the Middle 40 percent and 73 percent for the Top 30 percent (Table 8.26).

Table 8.26 Perc. Of HH owning Fridges

	Bot3	Mid4	Top3	All
	Rural			
Fijian	9	20	38	22
Indo-F	36	63	72	55
Other	13	21	71	32
Rural All	20	36	49	34
	Urban			
Fijian	44	64	85	71
Indo-F	58	73	90	77
Other	47	75	97	86
Urban All	52	70	89	75
	All			
Fijian	17	35	59	39
Indo-Fij	44	69	85	68
Others	28	57	94	72
Fiji	30	51	73	53

The bulk of these differences arise however because of the low usage by the Bottom 30 percent in the rural areas of whom only 20 percent owned the appliance, and only 9 percent of rural Fijians in this category, contrasting with 36 percent of Indo-Fijian households.

However, in the Urban areas, the difference between Fijians (44 percent) and Indo-Fijians (58 percent) in the Bottom 3 deciles is not so significant, suggesting that the poorer access of rural Fijians to reliable and appropriate electricity supply is probably a major contributory factor.

Nevertheless, despite the good access to electricity in the urban areas, only 52 percent of urban households in the Bottom 3 deciles had fridges. Just under a half did not, no doubt leading to a significant downward pressure on their standards of living.

8.18 Ownership of Videos/TVs

A comparison of the data in Table 8.27 with that in Table 8.26 suggests that the Bottom 3 deciles in both rural (28 percent compared to 20 percent) and urban areas (57 percent compared to 52 percent) place a slightly higher priority on entertainment than food preservation advantages.

Table 8.27 Perc. Of HH owning Videos/TVs

	Bot3	Mid4	Top3	All
	Rural			
Fijian	13	27	44	28
Indo-F	48	75	79	66
Other	17	34	67	37
Rural All	28	44	55	42
	Urban			
Fijian	47	71	86	74
Indo-F	65	82	92	83
Other	40	76	96	85
Urban All	57	78	90	80
	All			
Fijian	21	41	63	44
Indo-Fij	55	79	88	76
Others	27	61	92	73
Fiji	37	60	76	60

The ethnic differences in both rural and urban areas, are similar to those for Fridges.

The ethnic differences in the urban areas point to poorer households simply not being able to afford this entertainment device which might be considered as a necessity in any better

off society: 57 percent for the Bottom 3 deciles, rising to 78 percent in the Middle 40 percent and 90 percent for the Top 30 percent. There are also significant ethnic differences especially at the Bottom 3 deciles, with 65 percent of the poor Indo-Fijian households owning videos or tvs, compared to a much lower 47 percent for Fijians.

8.19 Personal Computers

The possession of computers in the households, is an important indicator of households' recognition of the importance of investing in the education of the family, through the household use of computers and associated software, and access to Internet.

Table 8.28 Perc. Of HH owning Computers

	Bot3	Mid4	Top3	All
	Rural			
Fijian	0	1	2	1
Indo-F	1	1	6	2
Other	0	0	35	9
Rural All	0	1	4	2
	Urban			
Fijian	2	1	13	7
Indo-F	2	4	21	11
Other	0	6	34	23
Urban All	2	3	19	10
	All			
Fijian	1	1	7	3
Indo-Fij	1	2	17	7
Others	0	4	34	19
Fiji	1	2	13	5

The data in Table 8.28 suggests that the Bottom 30 percent of the Fiji population AND the Middle 40 percent show a distinct lack of preference for Personal Computers. For all ethnic groups, and in both Urban and Rural areas, less than 3 percent of the households had invested in PCs.

Nationally, a mere 13 percent of the Top 3 deciles had PCs, with 17 percent of Indo-Fijians and 7 percent of Fijians; 19 percent of Urban and a mere 4 percent of Rural households. Quite significantly, just about 34 percent of both Rural and Urban Others in the Top 3 deciles had computers.

These extremely low percentages are in stark contrast to households' much more generous ownership of television/video sets indicated in Table 8.27.

The relatively higher prices of PCs may be an explanatory factor and the steep decline in PC prices in the years since then has probably seen a boost in their purchases. Nevertheless, given the extremely low extent of ownership prevailing in 2002-03 it is unlikely that the proportion for the Bottom 3 deciles will have risen to any great extent, although the Middle 40 percent and the Top 30 percent are likely to have seen some dramatic increases in ownership of computers.

8.20 Conclusion

This chapter has given a broad brush picture of the likely standard of living of the Bottom 30 percent of Fiji's population. Their adults are less likely to be working for money, more likely to be surviving off subsistence, and have a higher proportion of unpaid workers in their household.

The Bottom 30 percent have quite high levels of dis-savings, and especially Indo-Fijians, have a high level of borrowing to finance their expenditures. Some half of their entire incomes are spent on food, as opposed to only 34 percent for the Middle

40 percent and a mere 20 percent for the Top 30 percent. A major explanation for the dis-savings of the indigenous Fijian poor, is that they give away on net, some 10 percent of their income, while Rural Fijians give away an even higher 12 percent. Full a half of the houses of the Bottom 30 percent have walls of iron, and only 17 percent have concrete.

The Bottom 30 percent are quite severely constrained in their expenditure on education, compared to that spent by the Middle 40 percent and the Top 30 percent. However, they emphasise the importance of this item by spending a slightly higher proportion of their total expenditure, than do the Middle 40 percent, especially for Ind0-Fijian households. A similar picture emerges for medical expenditure although there are sharp contrasts between that spent by Fijians and Indo-Fijians.

Both in Urban and Rural areas, the Bottom 30 percent of the population have a much lower percentage of their population enjoying amenities such as electricity for lighting, proper flush toilets, fridges, videos and televisions, home computers and independent transport in the form of cars or trucks.

The quality of life of the Bottom 30 percent of Fiji's population is significantly deficient compared to that enjoyed by the Middle 40 percent of the population.

Poverty seems to be a knotty problem, but with facts..

Chapter 9

Gender Issues in The Incidence of Poverty among Income Earners (2004-05)

9.1 Introduction

The previous analysis of poverty has been conducted at the level of households and not at the level of the individual. The household aggregation of incomes that is the basis of the HIES, does not permit the examination of poverty at the individual worker level, as for instance would be necessary for gender analysis of poverty. This section therefore examines the incidence of poverty at the level of individual workers and the incomes they earn, by using the results of the 2004-05 Employment and Unemployment Survey.

It is generally accepted that the incomes working people receive ought to be enough to place the average household above the accepted social norm as represented by the Basic Needs Poverty Line. The previous chapters used a range of values between $132 and $136 per week, for the Basic Need Poverty Line thought to be applicable then to a family of 4 Adult Equivalents in 2002-03.

Assuming roughly 2 working adults, this would require an income per person of between $66 and $68 for 2002-03 or roughly, $70 per working person in 2004-05, adjusting for inflation. For a conservative analysis of poverty, this chapter uses $60 per week as the BNPL for an individual worker, using the income distribution data derived from the Last 7 Days (L7D) dataset in the 2004-05 EUS.[117]

9.2 The Incidence of Poverty Nationally and by Gender

Table 9.1[118] and Graph 9.1 give the distribution of Female and Male Economically Active over the Last 7 Days (L7D). Females have much higher proportions at the two lowest categories: 23 percent of the Females earned less than $30 per week compared to a much lower 15 percent for Males.

Males have much higher proportions in the middle income brackets, while the proportions generally equalise towards the top bracket (which is the equivalent of an extremely low $16,000 annually).

Table 9.1 Distribution of Income L7D (Vert. Perc) 2004-05

Gr Income L7D	Female	Male	All
$0 to 29	23	15	17
$30 to 59	17	14	15
$60 to 89	18	17	17
$90 to 119	12	15	14
$120 to 149	7	11	10
$150 to 199	7	11	10
$200 to 249	4	5	5
$250 to 299	3	3	3
$300 +	9	9	9
All	100	100	100
<$60 pw	40	29	32
< $70 pw	46	35	38

Source: Narsey (2007)

[117] See Narsey (2007b) for the methodological explanation for this choice.
[118] All tables in this chapter refer to 2004-05.

Consequently, it is not surprising that some 40 percent of all Female Economically Active earned below $60 per week, as opposed to 29 percent of Males, and 32 percent of all working persons. To the Economically Active persons covered above, would need to be added the formally Unemployed persons over the Last 7 Days- some 6513 Females and 9981 Males- who earn zero incomes.

Graph 9.1 Distribution by Gross Income pw L7D

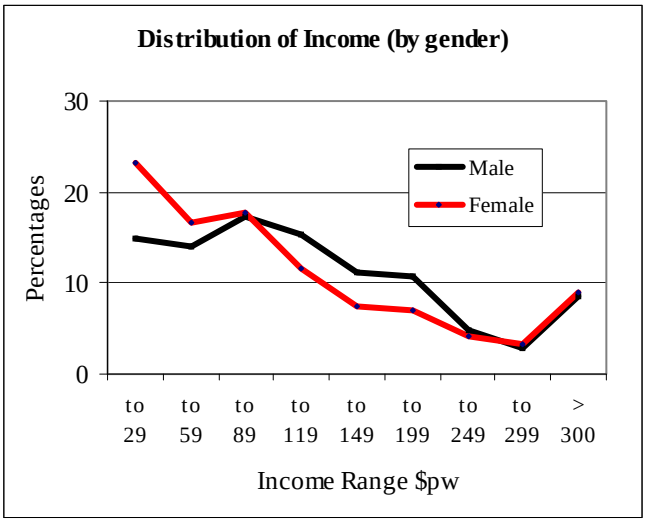


Table 9.2 gives the "Incidence of Poverty " amongst the Labour Force over the L7D. Some 44 percent of the Females in the Labour Force L7D would be considered Poor (earning less than $60 per week), compared to 32 percent of the Males (and 36 percent nationally).

Table 9.2 Incidence of Poverty Labour Force L7D

Poor L7D	Female	Male	All
Yes	43908	74272	118180
No	56485	157264	213749
Labour Force L7D	100393	231536	331929
Perc. Poor	44	32	36

The national figure derived from the 2002-03 HIES for the incidence of poverty was around 35 percent.[119] The estimates in this section are therefore consistent with the results of the 2002-03 HIES, assuming that the overall population is evenly distributed with these Labour Force persons. Of course, using the higher standard of $70 per week would give much higher estimates for workers in poverty. This chapter will use the more conservative $60 per week as the standard for incidence of poverty of individual workers.

Box 9.1 suggests that if unpaid Household Workers are included in the Labour Force, the incidence of poverty for Females would rise to 75 percent. If unpaid household workers are also included as part of the "poor", then three quarters of all working women, broadly defined, can be classified as "in poverty" from the point of view of the income they receive personally.

[119] It should be noted though that the HIES results applied to the whole population (including non-earners and children) whereas the results here are applicable only to the income earners themselves.

Box 9.1 A Gender-Neutral Incidence of Poverty?

Proponents of gender equality argue that Household Workers, even if they are unpaid, should be included in the definition of the Economically Active. This would add another 128 thousand workers to the Labour Force, all of whom would fall below the poverty line given that they are unpaid. The incidence of poverty for Females would then become a considerably higher 75 percent.

	Female	Male	All
Normal Labour Force Last 7 Days	100393	231536	331929
Household Workers	126143	2266	128410
"Gender-Neutral" Labour Force	226536	233802	460339
Poor L7D	43908	74272	118180
Total Poor (including Household workers)	170051	76538	246590
"Gender Neutral" Incidence of Poverty	75 percent	33 percent	54 percent

Of course, it is quite likely that there are a number of women on full-time household work, who are there by choice, even if they could be earning incomes well above the poverty line. The assumption may be that these women place a higher "value" on caring for their children , than they do on the higher income available elsewhere.

9.3 Labour Force Status

Table 9.3 disaggregates the Working Poor by their Labour Force Status. For virtually all categories (except those With a Job But Not At Work), Females had higher incidence of poverty. What stands out is the extremely high rates of poverty amongst those doing Community Work and Family Work (over 90 percent) but also those who were Self-Employed (53 percent).

The 47 percent Incidence of Poverty amongst Female "Employers" in sharp contrast to the 3 percent amongst Male Employers, may deserve further study as to the cause of this difference.[120]

Table 9.3 Incidence of Poverty (by Labour Force Status L7D)

Labour Force Status	Female	Male	All	Perc GG
	Incidence of Poverty			
A Wages	24	17	19	41
B Salary	1	0	1	136
C Employer	47	3	16	1363
D Self-employed	53	38	41	40
E Family Workers	91	86	88	7
F Community Wrk	99	93	95	6
G Job/Not At Work	27	29	28	-7
U Available/No work	100	100	100	0
All	44	32	36	36
	Vertical Distribution of Poor			
A Wages	20	23	22	
B Salary	0	0	0	
C Employer	1	0	0	
D Self-employed	22	30	27	
E Family Workers	37	28	31	
F Community Work	3	3	3	
G Job/Not At Work	2	2	2	
U Available/No work	15	13	14	
All	100	100	100	

[120] The results for Employers may not be statistically reliable as the numbers of Female and Male employers in the sample were quite small.

What was the composition of the Female poor? Some 37 percent of the Female Poor were doing Family Work, 22 percent were Self-employed, and 20 percent were Wage Earners. The other categories had negligible numbers.

9.4 Formal/Informal: Criterion of Payment of FNPF

The analysis of poverty using the 2002-03 HIES found it difficult to classify "households" by formal/informal sectors, since income-earners in the same household would not all necessarily be in the same category. The income earners in the 2004-05 EUS may however be classified thus, albeit roughly, by the criterion of payment of FNPF, although many employers and self-employed persons may not pay FNPF while being in the formal sector.[121]

Table 9.4 indicates firstly that there were some 55 thousand wage earners, and 2,400 salary earners, estimated not to be paying FNPF. The bulk of Female workers who did not pay FNPF were Self-employed, Family Workers and Wage Earners, in that order. There were also the same categories with high rates of poverty incidence.

Table 9.4 shows not only the great contrast between those who paid FNPF and those who did not, but also that the Gender Gaps exists on both sides, even if the rates are generally lower for those who did pay FNPF.

First, some 67 percent of Females who did not pay FNPF were in poverty, compared to 48 percent of Males. For those who did pay FNPF, the corresponding figures were 8 percent and 5 percent only.

The largest group of Female Poor were Family Workers, the Females amongst whom had an incidence of poverty of 93 percent. This would be the largest group of vulnerable Female workers in the labour force.

Two categories worth noting are the Self-Employed and Wage Earners who we have earlier noted were two of the largest categories of Female poor. Some 50 percent of all Female Wage Earners who did not pay FNPF were in poverty compared to 38 percent of the corresponding Male Wage Earners who did not pay FNPF (and compared to only 10 percent of Females who paid FNPF).

And some 53 percent of Female Self-Employed who did not pay FNPF were in poverty, compared to 38 percent of the Males who did not pay FNPF (and compared to 38 percent of Females who did pay FNPF).

[121] The numbers for the aggregate incidence of poverty will not match the earlier estimates because the Unemployed were not required to respond to the question on the payment of FNPF.

Table 9.4 Nos. of Persons & Incidence of Poverty (Labour Force Status and Payment of FNPF)

	Not Paying FNPF			Paying FNPF			Fiji
	Fem	Mal	All	Fem	Mal	All	
	Numbers of Persons in Labour Force L7D						
A Wages	12557	42040	54597	23779	58990	82769	137366
B Salary	794	1608	2402	15128	25525	40653	43055
C Employer	740	1650	2390	289	715	1005	3395
D Self-employed	17409	55167	72576	572	2952	3524	76100
E Family Workers	16595	22909	39503	292	1234	1527	41030
F Community Wrk	973	2158	3131	75	105	181	3312
G Job/Not At Work	916	3209	4125	1960	2514	4474	8599
U Available/No work	739	1862	2602	302	1120	1422	4023
All	50723	130603	181326	42398	93156	135554	316880
	Incidence of Poverty						
A Wages	50	38	41	10	2	4	19
B Salary	10	2	5	1	0	0	1
C Employer	60	5	22	13	0	4	16
D Self-employed	53	38	42	38	25	27	41
E Family Workers	93	86	89	40	92	82	89
F Community Work	100	94	96	100	100	100	96
G Job/Not At Work	59	48	50	11	4	7	28
U Available/No work	100	100	100	100	100	100	100
All	67	48	53	8	5	6	33

9.5 Rural/Urban

Table 9.5 indicates the extent to which the rural working persons are twice as likely to be Poor as the Urban working persons. The Rural Incidence of Poverty is 48 percent which is twice that of the Urban incidence of poverty of 24 percent.

Amongst the rural persons, Rural Females had the highest incidence of poverty – at 61 percent, some 43 percent higher than the Male rate of 43 percent.

Table 9.5 Incidence of Poverty in Labour Force L7D (by Rural/Urban and Gender)

Region	Female	Male	All	Perc. GG
Rural	61	43	48	43
Urban	30	20	24	46
All	44	32	36	36
Rural:Urban Gap	105	110	103	

Note that while the Urban incidence of poverty is lower, the gender gap is about the same: the Female Urban incidence of poverty of 30 percent is some 46 percent higher than the 20 percent rate for Urban Males.

9.6 By Division

Table 9.6 indicates that the Eastern Division (which had only 5 percent of the Labour Force) had the highest incidence of poverty (70 percent). The gender gap was however negative.

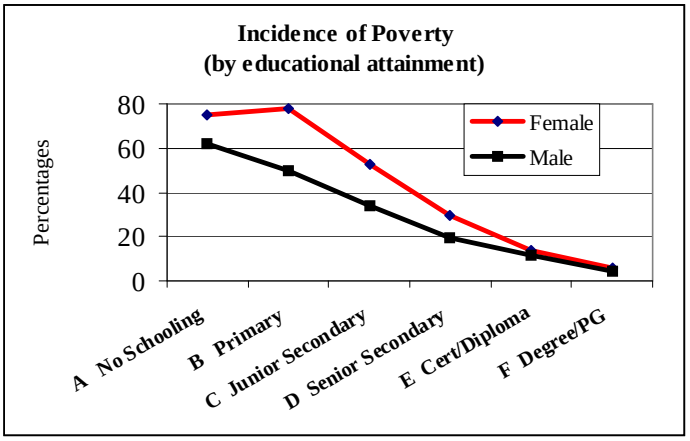
Table 9.6 Incidence of Poverty in Labour Force L7D (by Division and Gender)

Division	Female	Male	All	Perc. GG
Central	37	26	30	42
Eastern	63	74	70	-15
Northern	68	53	57	28
Western	38	24	27	60
All	44	32	36	36

The highest incidence of poverty was for Female workers in the Northern Division, with 68 percent, which was some 28 percent higher than the Male rate of 53 percent.

The other divisions also had the usual higher incidence of poverty for Females, with `the Western Division (with 36 percent of the Labour Force) having the highest Gender Gap of 60 percent. The overall incidence of poverty for Females and Males for the Western and Central Divisions were fairly similar.

Graph 9.2 Poverty Incidence by Educational Attainment



9.7 By Educational Qualifications

Table 9.7 (and Graph 9.2) gives the expected patterns of reducing incidence of poverty with improving educational qualifications, falling from a high of 67 percent for those with No Schooling to 5 percent for those with Degrees.

Table 9.7 Poverty Incidence by Educational Attainment

	Female	Male	All	percent GG
A No Schooling	75	62	67	22
B Primary	78	49	56	58
C Junior Secondary	53	34	39	55
D Senior Secondary	29	20	23	49
E Cert/Diploma	14	12	13	19
F Degree/PG	6	5	5	26
All	44	32	36	36

Females with No Schooling or only Primary education, had the highest rates of poverty incidence of all- 75 percent and 78 percent respectively.

At every qualification level, the Female incidence of poverty is significantly higher than that of the Males- the difference being 58 percent, 55 percent and 49 percent respectively for those with Primary, Junior Secondary and Tertiary.

Not only does the incidence of poverty drop sharply with the acquisition of Certificates or Diplomas, but the Gender Gap in the incidence of poverty also drops to its lowest level (19 percent). This is generally in keeping with our earlier results in income differences between Females and Males.

The numbers here emphasise once more that higher education has the most powerful association with the reduction of poverty for Females, and the reduction of the gender gap with males.

9.8 By Occupation Group

Table 9.8 gives the distribution of Poor Persons by major Occupational Groups.[122] More than a half of all the Poor are in Skilled Agriculture and Fisheries (61 percent for Males and 41 percent for Females).

Table 9.8 Distribution of Poor Persons (by Occupation Groups)

Occupation L7D name	Fem	Mal	All	Fem	Mal	All
	Numbers			Vertical percent		
1 Sen. Officials & Manag.	1264	502	1766	3	1	2
2 Professionals	457	1141	1598	1	2	2
3 Tech. & Assoc Prof.	1028	2363	3391	3	4	3
4 Clerks	607	129	736	2	0	1
5 Service, Shop, MktSales	3363	1271	4634	9	2	5
6 Sk.Agr.& Fishery	15364	38935	54299	41	61	53
7 Craft & Related	5477	3203	8681	15	5	9
8 Pl. & Mac.Oper.&Assemblers	1567	911	2477	4	1	2
9 Elementary Occupations	8396	15836	24232	22	25	24
All	37523	64291	101814	100	100	100
	Incidence of Poverty			percent GG		
1 Sen. Officials & Manag.	28	4	11		575	
2 Professionals	5	10	8		-48	
3 Tech. & Assoc Prof.	16	18	18		-10	
4 Clerks	5	1	3		241	
5 Service, Shop, MktSales	24	6	14		284	
6 Sk.Agr.& Fishery	86	61	66		41	
7 Craft & Related	73	10	22		636	
8 Pl. & Mac.Oper.&Assemblers	36	4	10		735	
9 Elementary Occupations	46	42	43		9	
All	44	32	36			

The next largest group are in Elementary Occupations, some quarter of both Males and Females. For Females, there are also significant proportions in Craft and Related (15 percent) and 9 percent in Service, Shop, Marketing, Sales.

[122] Some numbers here may not match the totals elsewhere in this Chapter as some persons did not have their Occupation group identifiers, although incomes and periods worked were recorded.

Quite unusually, Clerks had the lowest incidence of poverty of all occupation groups, with 3 percent for all, 5 percent for Females and 1 percent for Males.

Interesting are the negative Gender Gaps for Professionals, and Technical and Associated Professionals.

By and large, however, for nearly all the other Occupation Groups, the Females had significantly higher rates of poverty than the Males. Of note is the rate of 86 percent for Females (61 percent for Males) in Skilled Agriculture and Fisheries, and 73 percent for Females in Craft and Related (a mere 10 percent for Males). For those classified as Plant and Machine Operators and Assemblers, Females had a rate of 36 percent compared to a mere 4 percent for Males.

Only in Elementary Occupations, does the Gender Gap drop to 9 percent, with Females and Males both having high rates of 46 percent and 42 percent respectively.

9.9 By Industry

Table 9.9 gives the incidence of poverty by major Industrial groupings. While some 61 percent of all the Poor in the Labour Force are in Agriculture, Forestry and Fisheries, only 46 percent of the Female Poor are in that industry.

Table 9.9 Distribution of Poor Persons and Incidence of Poverty (by Industry Groups)

Occupation L7D name	Fem	Mal	All	Fem	Mal	All
	Numbers			Vertical percent		
1 AgForFishing	17179	45406	62585	46	71	61
2 Mining&Quarrying	0	0	0	0	0	0
3 Manufacturing	6459	6080	12539	17	9	12
4 Elect & Water	44	0	44	0	0	0
5 Construction	0	979	979	0	2	1
6 Hotel, Retail, Rest.	8169	5786	13954	22	9	14
7 Transp.Stor.Comm.	245	790	1035	1	1	1
8 Fin. Real Est. Business	458	136	594	1	0	1
9 Commun. Soc.& Pers. Serv.	4969	5114	10083	13	8	10
All	37523	64291	101814	100	100	100
	Incidence of Poverty			percent GG		
1 AgForFishing	86	65	70		32	
2 Mining&Quarrying	0	0	0		na	
3 Manufacturing	46	21	29		119	
4 Elect & Water	26	0	2		na	
5 Construction	0	6	6		na	
6 Hotel, Retail, Rest.	30	15	21		103	
7 Transp.Stor.Comm.	9	4	5		112	
8 Fin. Real Est. Business	13	2	6		551	
9 Comm. Soc.& Pers. Serv.	20	14	16		39	
All	44	32	36	All	44	

The other Female Poor are roughly distributed amongst only three other industrial groups- a surprisingly high 22 percent in Hotel, Retail and Restaurants, 17 percent in Manufacturing (mostly in the Garments industry), and 13 percent in Community, Social and Personal Services.

The highest incidence of poverty (86 percent) is for Females in Agriculture, Forestry and Fisheries, followed by 46 percent in Manufacturing, and 30 percent in Hotel, Retail and Restaurants.

In virtually every industry where there were significant Female and Male workers, the Female incidence of poverty was significantly higher than for Males.

The high gender gaps in some industries would no doubt be partly attributable to Females being in lowly paid occupations, usually requiring lower educational skills.

Table 9.10 Poverty Incidence (Industry and Qualification)

	Fem	Male	All	Perc. GG
	1 AgForFishing			
No Schooling	86	82	84	4
Primary	89	69	73	29
Junior Secondary	87	63	68	37
Senior Secondary	83	59	65	40
Cert/Diploma	61	83	76	-26
All AgForFishing	86	65	70	32
	3 Manufacturing			
No Schooling	63	19	35	228
Primary	77	38	49	106
Junior Secondary	45	21	30	110
Senior Secondary	22	10	13	112
Cert/Diploma	17	3	6	454
All Manufacturing	46	21	29	119
	6 Hotel, Retail, Rest.			
No Schooling	54	39	48	38
Primary	60	37	44	62
Junior Secondary	34	12	21	187
Senior Secondary	17	6	11	169
Cert/Diploma	11	8	9	29
All Hotel, Retail, Rest.	30	15	21	103
	9 Comm. Soc.& Pers. Serv.			
No Schooling	81	51	63	58
Primary	73	29	47	148
Junior Secondary	35	20	25	76
Senior Secondary	8	13	11	-40
Cert/Diploma	5	2	3	138
Degree/PG	4	2	2	139
All Comm.Soc.Pers.	20	14	16	39

9.10 Industry and Education Qualifications

Table 9.10 examines the incidence of poverty within industries by the highest educational qualifications of the workers (only those industries with adequate numbers of observations in each cell are given).

In virtually every industry, and at every qualification level, there are large positive gender gaps, indicating the Females are far more likely to be in the Poor category, given the same industry, and the same qualification as the Males.

This should not be too surprising since the incidence of poverty focuses on those with the lower incomes, and we have seen earlier that higher proportions of Females are generally to be found in the lower income ranges.

As would be expected, in most industries, there is a reduction in the incidence of poverty with higher educational qualifications. But in general, for any educational level, the incidence of poverty shows wide variation by industry.

The one exception is Agriculture, Forestry and Fisheries, where there was no great improvement in poverty incidence until one reaches the levels of Certificate/Diploma qualifications.

Table 9.11 Numbers of Total Population and Economically Active Persons in Poverty Deciles

	Total	Economically Active Persons		
P Dec	Population	Females	Males	All EcAc
PD 1	81795	3181	12875	16056
PD 2	81795	4404	19385	23789
PD 3	81795	7135	19538	26673
PD 4	81795	7011	22659	29670
PD 5	81795	8717	23842	32559
PD 6	81795	11033	24524	35558
PD 7	81795	12987	25798	38785
PD 8	81795	13963	25290	39253
PD 9	81795	15348	26940	42287
PD top	81795	18909	27329	46238
	817952	102688	228180	330869

9.11 Economically Active Females, Household Workers, and Poor Households

In the analysis above, we have attempted to estimate the incidence of poverty amongst the Economically Active persons, and in particular, the gender disparities.

However, poverty analysis is usually conducted at the household level and the general finding is that Females are usually around their normal 50 percent in every decile, from the lowest to the highest.[123]

An interesting question is: where do the Economically Active Females fall, as far as the Poverty Deciles are concerned, defined at the household level. Table 9.11 gives the basic data with the households ranked by Income per Adult Equivalent, and into deciles each containing a tenth of the total population: i.e. these PD1, PD2, etc deciles of population (not households).

Table 9.12 Numbers of Total Population and Economically Active Persons in Poverty Deciles

	Total	Economically Active Persons		
P Dec	Population	Females	Males	All EcAc
PD 1	10	3	6	5
PD 2	10	4	8	7
PD 3	10	7	9	8
PD 4	10	7	10	9
PD 5	10	8	10	10
PD 6	10	11	11	11
PD 7	10	13	11	12
PD 8	10	14	11	12
PD 9	10	15	12	13
PD top	10	18	12	14
	100	100	100	100

Table 9.12 indicates the extent to which Economically Active persons tend to be in the higher deciles. Only 20 percent of Economically Active persons were in the Bottom 3 deciles (which contained 30 percent of the total population, of course).

[123] See Narsey (2006b).

There was an even lower proportion of Economically Active Females – 14 percent, compared to 23 percent of Males.

At the other end of the spectrum, some 47 percent of Economically Active Females were in the Top 3 deciles, compared to 35 percent of Economically Active Males.

While a much higher proportion of Females were considered poor in the earlier analysis, the more universal analysis of poverty incidence at the household level, indicates that Economically Active Females generally tend to improve the standards of living of the households they are part of.

Table 9.13 Economically Active Females and Female Household Workers as percent of Total Population in Poverty Deciles

P Dec	EcAc	HH Workers	Both
PD 1	4	19	23
PD 2	5	18	23
PD 3	9	18	26
PD 4	9	17	25
PD 5	11	16	27
PD 6	13	15	28
PD 7	16	12	28
PD 8	17	12	29
PD 9	19	11	30
PD top	23	9	32
All	13	15	27

This follows simply because they are income earning or producing goods or services whose market value is estimated by the EUS. In contrast, the services of full-time Household Workers are not so evaluated.

Table 9.13 gives another perspective on this, the distributions of both Economically Active persons, and Household Workers. Economically Active Females are only 13 percent of the total population, but 4 percent of the Bottom decile respectively. Full-time Female Household Workers on the other hand, who are 15 percent of the whole population, are a much larger 19 percent of the Bottom decile.

Economically Active Females are seen to add income to the households and tend to move their households up the poverty deciles. Household Workers, on the other hand, add no income to the household, and hence their households tend to be on the lower poverty deciles.

9.12 Ethnicity[124] and Gender

The Fijian Labour Force has the highest incidence of poverty (41 percent) with Indo-Fijians having a lower 28 percent, with the average pulled down by the low rate of 23 percent for Indo-Fijian Males. While this appears to be a reversal of relativity from the HIES results given in Chapter 6, it must be kept in mind that the Chapter 6 results are based on the household aggregation of individual incomes, whereas this chapter is based on individual incomes.

Table 9.14 indicates that Fijian Females in the Labour Force have the highest incidence of poverty (46 percent) followed by Indo-Fijian Females with 42 percent. With Fijian Males having 39 percent and Indo-Fijian Males having a much lower 23 percent incidence of poverty, the percent GG is highest for Indo-Fijian Females- with 80 percent.

[124] The numbers of observations behind the statistics for Others and Rotumans are not high enough to draw reliable conclusions.

Were full-time unpaid Household Workers to be added to the "Poor" category, then Indo-Fijian Females would have a considerably higher incidence of poverty.

Table 9.14 Incidence of Poverty of Workers by Ethnicity and Gender

	Females	Males	All	percent GG
Fijian	46	39	41	17
Indo-Fij	42	23	28	80
Others	36	42	40	-15
Rotuman	12	31	27	-62
All	44	32	36	

9.13 Conclusion

This chapter has presented evidence to support the general thesis that as individuals, Females suffer far more from poverty than do Males. This applies generally across employment status, industries, occupations, qualifications, and ethnicities.

Generally, Females who are Economically Active raise the living standards of their families, as well as of themselves. Higher qualifications tend to reduce the incidence of poverty for Females (as for Males)

Facts unfurl the true nature of poverty...

Chapter 10

Poverty and Income Distribution: 1977 to 2004

10.1 Introduction

One of the more difficult tasks in the analysis of poverty is to assess how the incidence of poverty has been changing over time. Yet this issue is usually at the forefront of public policy discussion in every country.

This issue is more difficult in a context where the macro-economic growth rates have not been unambigiously large and consistently in one direction. Thus economies which have showed consistent and large annual growth rates over the relevant period, with the growth benefits well-distributed over the population, may be expected to show reductions in poverty, and perhaps also, improvements both in real incomes of the poor, and their shares in total income. Conversely, an economy which has been in continuous decline may well be expected to show very negative results for both poverty and income distribution.

The Fiji economy, plagued by coups in 1987 and 2000, and now 2006, has had very mixed fortunes, making poverty analysis more difficult than would otherwise be the case. While the historical data available for Fiji is not particularly robust, this chapter attempts to identify changes in the incidence of poverty and income distribution over time, to the extent that methodologically consistent data can be identified.

Poverty analysis at the national level is usually based on data derived from national Household Income and Expenditure Surveys which may be years or even decades apart. For Fiji, there have been only three HIES - in 1977, 1991 and 2002-03. There were different sampling methods, different sampling frames, and different degrees of efficiency and accuracy with which the surveys were implemented on the ground. One specific difficulty derives from a lack of methodological clarity and consistency for the 1991 HIES results (as explained elsewhere), which render comparisons extremely tenuous.

Nevertheless, this study attempts to present methodologically consistent poverty statistics based on the HIES data for 1977, 1991 and 2002-03 HIES. Readers are reminded not to place too much emphasis on small differences in the results, where they exist. Group relativities at each point in time, may be far more useful.

This section also presents some poverty estimates for 2004-05, derived from the Bureau's 2004-2005 Employment and Unemployment Survey. While the methodology for household income and expenditure surveys is quite different from that for employment and unemployment surveys, the 2004-05 EUS does give poverty incidence results which are quite consistent with the 2002-03 HIES results, especially for the overall group relativities. They are therefore a useful addition to the poverty picture.

There are two methodological issues that need to be clarified first: the previous erroneous use of household distributions ranked by total household income (rather than income per capita), and the use of deciles of households (rather than deciles of persons).

Thus the 1997 Fiji Poverty Report in an attempt to draw conclusions about the changes in welfare of the poorest 10 percent or 20 percent of households in Fiji, examined how the total incomes shares of the bottom 10 percent or 20 percent of households, ranked by total household income, were changing over time. This was not a correct procedure as ranking by total household income does not place households in order of poverty. Lower income households (as determined by total household income) may be quite well-off if there are fewer people to support in those households, and conversely.

For a proper ranking of households in poverty (e.g. the poorest 10 percent to the richest 10 percent) the ranking criterion has to be Income per capita or Income per Adult Equivalent. While Chapter 6 in this study has used Income pAE as the most appropriate ranking criterion, the analysis in this chapter uses Income pc as the criterion in order to make valid comparisons with the available comparable results for 1977 and 1991.

Since data on distributions of households ranked by total household income are also available for 1977, 1991 and 2002, some analysis using this ranking method is given separately in Annex 2.[125]

Secondly, income distribution tables which give data on shares of incomes of deciles of households, are using a variable whose actual size is indeterminate in the Fiji context. Fijian households are generally bigger than Indo-Fijian households, and therefore a decile of households may contain quite a different number of persons compared to another decile of households, especially if the ethnic composition of the households has been dramatically changing, as it has in Fiji after the coups of 1987 and 2000.[126] For that reason, tables on income shares of deciles of households are given in Annex 2.

A far more useful analysis of changes in the distribution of income may be conducted by examining the income shares of deciles of persons- ie the shares of the bottom 10 percent of the population etc. as is done in this chapter.

All income data quoted here, including that for 1977, 1991, 2002-03 and 2004-05, are for unadjusted incomes data. Stavenuiter (1983) had conducted income distribution analysis using incomes adjusted using the national income data available for 1977 through the Social Accounting Matrix model existing then. Such adjustments were not available either for 1991 or for the 2002 data.[127]

[125] This analysis is separated out in the Annex to ensure stakeholders not familiar with the statistical niceties do not use the statistics in the Annex for their analysis of poverty.
[126] With the better qualified Indo-Fijians tending to emigrate, the middle and upper classes have seen a major reduction of Indo-Fijian households, which statistically have been replaced by Fijian and Other households.
[127] The income adjustments invariably worsen the income distribution because the households most under-reporting incomes are usually at the top deciles.

A word of caution in the interpretation of the Gini coefficient. This is one number indicating a summary statistic for the entire income distribution. The Gini is "decile neutral" in the sense that it makes no value judgement about gains (losses) by lower or upper deciles.

Given that this study is also about the state of the poor in the country relative to the rest of the country, it is just as important to focus on the gains and losses in total income shares by the lower deciles (e.g. the Bottom 3 deciles) as well as the gains and losses of the Middle 4 and Top 3 deciles.

10.2 The Macro-economic context: 1977 to 2004

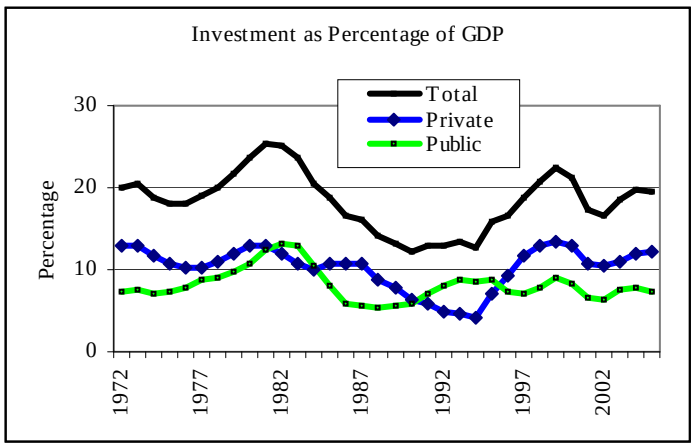
It is useful to first examine what the available data suggests was happening to Fiji's national income over this period, and the incomes of key groups for whom data is available.

For the sake of consistency, this section relies on Reserve Bank data to outline the trends in investment (public and private) and Gross Development Product.[128]

The Bureau of Statistics also publishes data from annual employment surveys on wages and salaries, which are unfortunately neither comprehensive in coverage nor accurate.[129] This section also uses Wages Councils data which this author has generated in a previous study.[130]

First, Total Investment in Fiji over the period 1977 to 2005 had four distinct identifiable trends (Graph 10.1). From a ratio of about 20 percent of GDP in the early seventies[131], there was a strong growth to above 28 percent by 1982. Then from 1982 there was a steep decline to about 12 percent around 1990. Then from about 1993 to 2005, there was a reasonable upward trend for total investment, driven by a sharp increase in private sector investment.

Graph 10.1 Investment as Percent of GDP

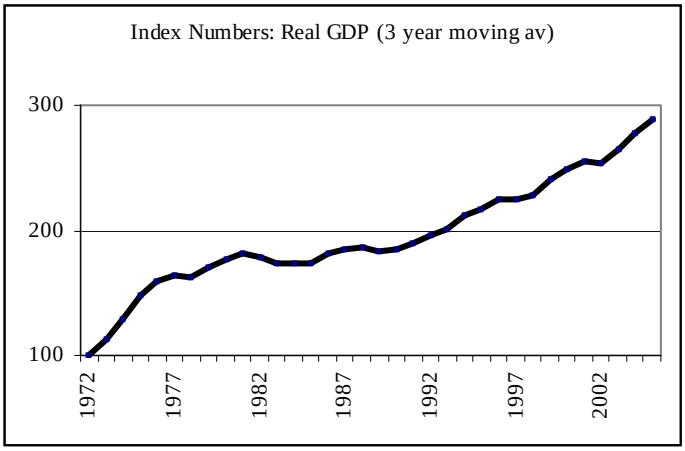


[128] Reserve Bank of Fiji, Statistical Annex, Table 33: Investment as Percentage of GDP.
[129] The annual employment surveys are not comprehensive, with many formal sector employers and most of the informal sector employees omitted. The series is disjointed, while for recent years the figures given are crude survey data, with no systematic rating-up for non-response.
[130] The data on the average of the Wages Councils rates are from Narsey (2006a) Just Wages for Fiji.
[131] These curves represent three year moving averages.

Private sector investment showed a long-term decline from the early 1970s to the early 1990s, after which it rose gradually but only to just above 10 percent in the early 2000s.

Public sector investment rose to above 10 percent in the early 1980s, but then declined to around 5 percent in the mid-eighties, before slowly increasing to around 8 percent in the 1990s and thereafter.

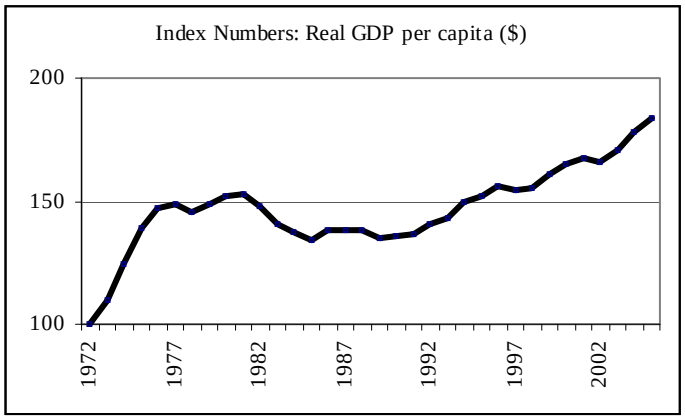
Graph 10.2 Real Gross Domestic Product (Index Numbers)



It should be recognised that even these moderate increases in public sector investment are unlikely to have generated a corresponding healthy growth in income as equivalent private sector investment may have. Not only is public sector investment generally less efficient than private sector investment, but this was also a period in which large increases in public debt were being engendered because of the necessity to fund the National Bank of Fiji disaster[132], while a number of public sector "mismanagement events" were occurring between 1998 and 2002.[133]

Graph 10.2 indicates that following a sharp increase in Real Gross Domestic Product[134] in the early 1970s there was almost stagnation between 1977 and the early 1990s, following which there has been a slow increase to around 2005. However, with the population growing rapidly at around 2 percent per annum up to 1987, Real GDP pc showed a distinct downward decline from around 1977 to the early 1990s (Graph 10.3).

Graph 10.3 Real GDP pc (Index Numbers)



[132] More than $200 million was borrowed by the state to bail out the National Bank of Fiji.

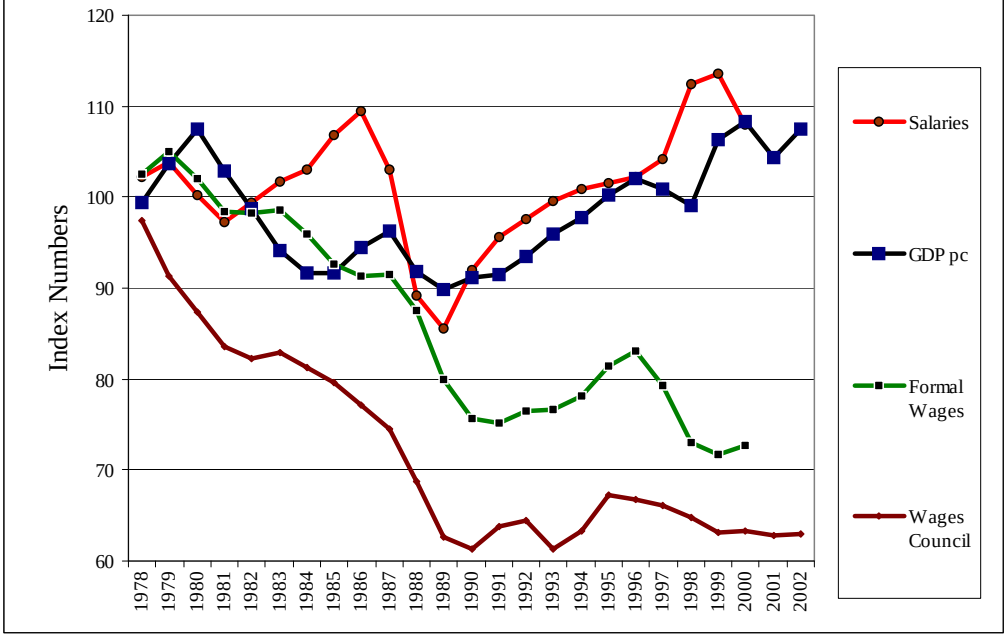
[133] The Auditor General's Reports pointed out tens of millions of tax-payers' funds were being inefficiently used on Government's Commodity Development Framework prior to the 1999 elections, and equally large amounts were used on what the media referred to as the "Agricultural Scam" prior to the 2001 elections.

[134] These Real GDP and GDP pc data are generated from the Reserve Bank ratios of Investment to Nominal GDP, with the nominal GDP pc then deflated by the Fiji CPI to obtain real purchasing power.

The decline in population growth rate after 1987 from 2 percent per annum to around 1 percent per annum, strengthened the upward trend for real GDP pc from the early 1990s to around 2005. However, the growth appeared to be quite uneven amongst different types of income. Graph 10.4[135] indicates that average salaries generally kept pace with the movement of GDP pc, even going ahead of it in some years, driven very strongly by the growth of public sector salaries.

On the other hand, "formal sector wages"[136] was estimated to fall to some 75 percent of their 1978 value by 1990, rising to just above 80 percent by 1996 and then falling again till 2002. The average Wages Councils rates, which represents the most vulnerable wage earners who are not covered by unions and collective agreements, fell massively from 1978 to about 60 percent of its 1978 value, and showed only a slight improvement to 2002.

Graph 10.4 Real GDP pc, Salaries, Formal Wages and Wages Council Average
(Index Numbers: 1977 = 100)



It should be noted that the rates of growth of salaried employment has been much faster in the public sector than in the private sector, while the growth of wage employment has been higher in the private sector (1996a, Chapter 3).

We have seen in Chapter 6 that the category of income earners labelled "Permanent Wages" had extremely low rates of poverty while those labelled "Casual Wage Earners" had much higher rates of poverty. These findings are consistent with the trends indicated in Graph 10.4.

[135] This is derived from Narsey (2006a), Graph 25, page 55.

[136] The Wages and Salaries data are derived FIBoS annual employment survey, which covers largely the formal sector, in which a large part of the wage earners would be unionised. The bulk of the informal sector employees are covered by the Wages Councils, which are supposed to regulate the wages of workers not covered by unions and collective agreements.

10.3 The Incidence of Poverty 1977 and 2002

We have seen in previous chapters that it is difficult to draw conclusions about the changes in poverty between 1991 and 2002-03. While this study's estimate of the incidence of poverty for 2002-03 was around 34 percent using the 1991 ethnic BNPL values used in the 1997 FPR, it is quite unclear what the comparable figure was for 1991.

Chapter 5 has suggested that if some of the data in Ahlburg (1995) appendices are correct, then the incidence of poverty may well have been around 36 or 37 percent. If that were correct, then one would have to conclude that poverty may have declined slightly between 1991 and 2002-03. This would be in keeping with the macro picture we have painted in the earlier section. What of the overall change from 1977 to 2002?

It is possible for the 1977 standard for the BNPL to be adjusted by the Consumer Prices Index (CPI) to 2002 values, which can then be used on the 2002-03 data to estimate the incidence of poverty in 2002. This may then be compared with Stavenuiter's estimates for 1977 which were based on a household of size 6 or 4.5 AE. Table 10.1 makes this very rough comparison. The results indicate that the percentage of households below the same BNPL was almost the same (15.24 percent) as the percentage of households in poverty in 1977 (15.04) percent): i.e. just worsened by a mere 1 percent, not particularly significant and the small difference possibly due to statistical variance.

Note that when the 1977 BNPL is adjusted by the CPI to 2002, the eventual value ($23.62 per AE) is way below the current values (around $33 pAE) being used for 2002 using either the 2002 revised BNPLs, or using the 1997 BNPL adjusted by the CPI to 2002.

Table 10.1 Percentage of Households in Poverty (1977 HIES, 2002 HIES)

	Stavenuiter	CPI adj	CPI adj
BNPL	1977	*1991*	2002
BNPL per HH of 6 (4.5 AE)	28.53	*75.63*	106.31
BNPL pAE	6.34	*16.81*	23.62
No of HH Below BNPL	17300	*Est. 30503*	23886
Total Number of HH	115027	*135639*	156681
Percent of HH below BNPL	15.04	*Est. 22.5*	15.24

An extremely rough estimation may be made for the percentage of households in poverty in 1991, by adjusting the 1977 BNPL to 1991 (giving a value of $75.63 per standard households). Ahlburg (1995, Table 20.1) gave a figure of 25.2 percent of households being below the BNPL of $84.85 in 1991. Using extremely rough proportional estimation, the BNPL of $75.63 may imply a figure of some 22 percent of households in poverty in 1991. It is unclear what percentages of the population may have been in poverty, corresponding to these percentages of households.

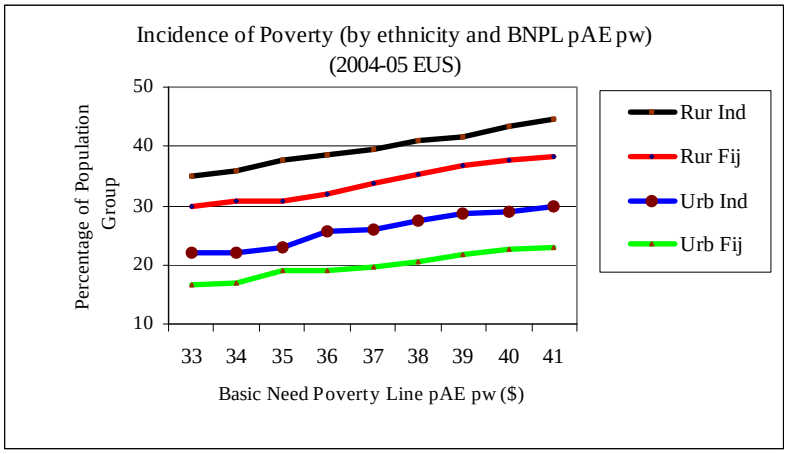
But overall, the rough evidence indicates that the incidence of poverty increased between 1977 and 1991, and then declined again to about the 1977 levels by 2002-03.

10.4 The Incidence of Poverty 2004-05 (2004-05 EUS data)

The 2004-05 Employment and Unemployment Survey (EUS) has data on incomes of individuals which can be aggregated to the level of households and ranked by Income per Adult Equivalent. This data has a number of methodological differences and limitations compared to the 2002-03 HIES data.[137] One limitation was that the top income brackets were left open, such as "$300+ per week" or "$150,000 per year and over". Hence the higher incomes of households are not accurately captured. This is not such an important limitation for poverty analysis since we are more concerned with incomes at the lower levels.

A more important consideration is that the 2004-05 EUS data did not allow for the implicit incomes derived from owner-occupied dwellings to be estimated accurately. In the HIES, there are estimates made for "imputed rent" which are then added to households' income. For this section, a somewhat rough method has been adopted to add adjust rural and urban incomes of the different ethnic groups by the percentages that Imputed Rent was of their total Income according to the 2002-03.[138]

Graph 10.5 The incidence of Poverty (by ethnicity and region) (2004-05 EUS data)



Graph 10.5 gives the overall relativities of the incidence of poverty, for particular values of the BNPL. It may be seen that the relativities are exactly the same as in 2002-03: Rural Indo-Fijians are poorest followed by Rural Fijians, Urban Indo-Fijians, and Urban Fijians, in that order.

The difference between Graph 6.5 and Graph 10.4 is that all the curves are slightly lower down in 2004-05, and the gap between the urban and rural lines is smaller.
If the differentiated BNPL values in 2002-03 are adjusted by the CPI change between 2002-03 and 2004-05 (roughly by 7 percent) then Table 10.2 gives the roughly estimated values for 2004-05.[139]

[137] The total numbers of households included in the 2004-EUS was just less than 3000, which is roughly two thirds the number of households surveyed in the 2002-03 HIES. The number of Rotuman and Other households were not very large hence the statistics derived for them are not robust.
[138] In the 2002-03 HIES results, while the national average for imputed rent adjustment amounted to 9 percent of Total Adjusted Household Income, the proportions for the Bottom 60 percent of the population were as follows: Rural Fijians (10 percent), Rural Indo-Fijians (10.7 percent), Rural Others (10.4 percent), Urban Fijians (12.6 percent), Urban Indo-Fijians (13.9 percent) and Urban Others (13.3 percent). These percentages have been used to adjust the households incomes here.
[139] Others and Rotumans are given the same values as Fijians.

With these differentiated values for the BNPL, the estimates of the incidence of poverty are as in Table 10.3. The national incidence of poverty was estimated to be about 31 percent in 2004-05, compared to the 35 percent according to the 2002-03 HIES.

Table 10.2 Differentiated BNPL values (2004)

	Fijians	Indo-F	Others	Rotum
Rural	33.36	33.82	33.36	33.36
Urban	37.06	40.13	37.06	37.06

Given the roughness of the calculations of household incomes data from the 2004-05 EUS, too much should not be made of the absolute changes in the estimates of the incidence of poverty from 2002-03 to 2004-05- a two year period.

However, Table 10.4 gives a possibly interesting picture in terms of relative differences in changes. Thus while there would have appeared to be an overall reduction of poverty between 2002-03 and 2004-05 (of around 21 percent), that for Urban Indo-Fijians declined by only 9 percent..

Table 10.3 Incidence of Poverty With Differentiated BNPLs using 2004-05 EUS data

	Fijians	Indo-F	Others	Rotum	All
Rural	30	36	6	19	32
Urban	20	29	15	23	24
All	25	32	12	21	28

Interestingly, the overall reduction for Fijians (- 25 percent) was larger than the reduction for Indo-Fijians (- 13 percent). Some politicians (in opposite camps) may be tempted to attribute this difference in poverty changes between Fijians and Indo-Fijians to "Affirmative Action policies in favour of Fijians". Pro-Affirmative Action politicians might claim these results as evidence of their success, while those opposed to ethnically based Affirmative Action policies would point to the results as evidence of the negative racially discriminatory effects of these policies.

Table 10.4 Perc. Change in Incidence of Poverty (2002-2004)

	Fijians	Indo-F	All
Rural	-21	-19	-21
Urban	-25	-9	-18
All	-25	-13	-21

But there are other purely economic reasons for this possible ethnic difference in the changes in the incidence of poverty. During the years 2002 to 2004-05, both the sugar industry and the garment industries continued their long term decline. Thus with the expiry of ALTA leases for Rural Indo-Fijian farmers, some of the poorest are likely to have migrated to urban areas, where a proportion of them may have remained poor. This movement would therefore tend to depress the incidence of poverty in rural areas, while increasing that in the urban areas. Garment workers, most of whom were Indo-Fijians, were also being laid off in large numbers in urban areas, as the garment industry contracted with the loss of preferential export markets.

In sum, however, the evidence would suggest that there was an overall reduction of poverty in the two year period 2002-03 and 2004-05. This might indeed be expected given that the Fiji economy was growing, albeit slowly, over these two years.

In terms of the numbers and proportion of the different groups who were poor in 2004-05, the Indo-Fijian share (49 percent) was just slightly larger than the Fijian

share (48%). As before a larger share of the poor were in the rural areas with 57 percent and 43 percent in the urban areas..

Table 10.5 Percentage of the Poor in 2004-05

	Fijians	Indo-F	Others	Rotum	All
Rural	31	26	0	0	57
Urban	17	24	1	1	43
All	48	49	2	1	100

An interesting perspective is obtained from the divisional break-down of the incidence of poverty, by rural and urban areas (Table 10.6). What stands out is that the incidence of poverty appeared to increase in the rural Western Division, for both Fijians (by 8 percent) and Indo-Fijians (by 6 percent), in aggregate by 9 percent.

While Indo-Fijians in the Rural Northern Division appeared to have a reduction of 54 percent, the Urban Indo-Fijians were seeing an increase of 12 percent. Again, one factor possibly explaining this differential trends would be that poor Indo-Fijians were leaving the rural areas and migrating to Urban areas, where they still remained poor.

Fijians in the Urban Western Division appeared to see an increase of 14 percent in the incidence of poverty.

In aggregate, the Western Division saw an increase in poverty of 4 percent (Fijians by 8 percent), while other Divisions were seeing a reduction in poverty.

Table 10.6 Changes in the Incidence of Poverty from 2002-03 to 2004-05

Division	Fijian	Indo-Fijian	All
	Rural		
Central	-18	-3	-10
Eastern	-71		-69
Northern	-39	-54	-49
Western	8	6	9
	-20	-18	-20
	Urban		
Central	-45	-31	-37
Eastern	-81		-77
Northern	-12	12	-1
Western	14	1	3
	-25	-10	-19
	Rural and Urban		
Central	-36	-22	-31
Eastern	-72		-70
Northern	-38	-37	-42
Western	8	4	4
Fiji	-25	-13	-21

10.5 Distribution of Income by Deciles of Persons ranked by Income per capita

Table 10.7 gives the distribution of income by deciles of persons ranked by Household Income per capita for 1977,[140] 1991[141] and 2002. These are population deciles. Deciles of persons may be more reliably and objectively compared than deciles of households.

The ranking by Income per capita, ensures that the Bottom 3 deciles may be correctly referred to as the "poorest 30 percent of the population", and the Top 3 deciles may correctly be referred to as the Top 30 percent of the population in Fiji.

[140] Stavenuiter (1983), Table 2.4. fourth column, unadjusted incomes.
[141] Ahlburg (1995), Table 5.2. This table was not included nor referred to in the 1997 FPR.

Table 10.8 gives a summary of the income distribution changes between 1977, 1991 and 2002 for the changes for the Bottom 3, Middle 4 and Top 3 deciles. Between 1977 and 1991, the Bottom 30 percent (the poorest 30 percent) increased their share by 8 percent, the Middle 40 percent lost ground by 4 percent, and the Top 3 increased their share only slightly by 1 percent. Between 1991 and 2002, both the Bottom 30 percent and the Middle 40 percent improved their share while the Top 30 percent lost ground by 3 percent.

Table 10.7 Distribution of Income by Deciles of Persons Ranked by Household Income pc

	1977	1991	2002
P Dec Ipc 1	1.63	2.0	2.24
P Dec Ipc 2	3.16	3.5	3.46
P Dec Ipc 3	4.37	4.4	4.49
P Dec Ipc 4	5.90	5.5	5.46
P Dec Ipc 5	6.50	6.4	6.67
P Dec Ipc 6	7.92	7.5	7.91
P Dec Ipc 7	9.16	8.9	9.56
P Dec Ipc 8	11.74	11.0	11.86
P Dec Ipc 9	15.84	15.0	15.58
P Dec Ipc 10	33.78	35.8	32.76
	100	100	100

Overall, from 1977 to 2002, the Bottom 30 percent improved their share by 11 percent, the Middle 40 percent remained relatively unchanged, while the Top 30 percent saw their share reduce by 2 percent.

Table 10.8 Shares of Income by Deciles of Persons Ranked by Income pc (1977, 1991, 2002)

	1977	1991	2002	1977/1991	1991/2002	1977/2002
Bottom 3	9.2	9.9	10.2	8	3	11
Middle 4	29.5	28.3	29.6	-4	5	0
Top 3	61.4	61.8	60.2	1	-3	-2
Ratio Top3: Bot3	6.7	6.2	5.9	-7	-5	-12
LB Gini Coeff.	0.43	0.43	0.41	1	-4	-4

According to the Lower Bound Gini coefficient, the overall income distribution barely changed between 1977 and 1991 remaining at 0.43. It would then appear to have improved slightly declining from 0.43 to 0.41 in 2002 (a small improvement of 4 percent). Overall, between 1977 and 2002, the Gini co-efficient indicates a slight improvement of equality, with the Gini declining by 4 percent from 0.43 to 0.41.

The ratio of the Top 30 percent to the Bottom 30 percent showed a small decline from 6.7 in 1977 to 6.2 in 1991 and a further decline to 5.9 in 2002. Both the Ginis and the Top 30:Bottom 30 ratios indicate small improvements in the distribution of income between 1977 and 2002.

The general tenor of discussion in the 1997 Fiji Poverty Report suggested a significant worsening of income distribution between 1977 and 1991. The data in Table 10.7 and 10.8 suggest that there was a slight improvement, focused on gains by the Bottom 30 percent of the population. The data here suggests that overall between 1977 and 2002, there was some improvement overall and significant improvement for the Bottom 30 percent.

One interesting perspective on what may have been happening to the standard of living of the poor people may be obtained from the percentage of total expenditure

which is spent on Food. Generally, when the standard of living improves, the percentage spent on food, declines. It may be noted from Table 10.8 (derived from Table 5.4, Chapter 5) that both the national averages and the averages for the Bottom 3 deciles declined from 1977 to 1991 to 2002, the declines were larger for the Bottom 3 deciles. This may be a very rough indication that the standard of living for the Bottom 3 deciles was improving throughout this entire period.

Table 10.8 Food Expenditure as Percentage of Total Expenditure

	1977 HIES	*Est 1991*	2002 HIES	1977/ 1991	1991/ 2002	1977/ 2002
	Percentages			Percentage Changes		
All households	46	38	32	-17	-16	-30
Bottom 3 deciles	67	51	40	-23	-20	-40

10.6 Conclusion

The evidence of what took place 1977 and 1991 is somewhat mixed. The macro data, supported by some of the HIES data from 1991, suggests that there may have been some worsening of poverty between 1977 and 1991, although some data also indicates an improvement for the welfare of the Bottom 30 percent of the population. The available evidence suggests that on net, between 1977 and 2002-03, there has not been any major deterioration in poverty, but neither is there evidence of any significant improvement.

The 2004-05 EUS data suggests that there was some reduction in the incidence of poverty between 2002 and 2004, except for Urban Indo-Fijians, and for both ethnic groups in the Western division.

But, whatever small improvements there may have been to 2004, in all likelihood they have been completely undermined since the coup of December 2006. The tourism industry went into a sharp decline in 2007, with numbers barely being maintained at the cost of reduced total revenues because of reduced tariffs. Throughout the Fiji economy, thousands of workers were either put on reduced hours, or were laid off. Wages were reduced in many cases, and certainly not increased in nominal terms despite the large increase in the CPI.

In early 2008, there have been large rises in the prices of essentials such as rice, flour and fuel which must have led to large increases in the values of the Basic Needs Poverty Lines. Incomes, especially at the low end, have not been buoyant, with many employers under serious constraints. The sugar and garment industries continue their long term decline, and even remittance incomes may have dropped in the last two years.

Generally, with no major industry showing any signs of significant sustained growth, thousands more families will have been pushed below the poverty line since December 2006.

It is quite likely that poverty has significantly worsened from the 35 percent estimated for 2002-03.

Chapter 11

Conclusion

Historically, Fiji has suffered from a lack of solid empirical data on the national incidence of poverty. The last most accurate set of estimates was based on the 1977 HIES.

This study has used solid Fiji-wide surveys of households by the Fiji Islands Bureau of Statistics, to present a whole raft of data on the incidence of poverty and poverty gaps throughout the Fiji economy, both for 2002-03 and for 2004-05.

There are disaggregations given by ethnicity, urban:rural, divisions, industries, occupations, qualifications, as well as gender.

The results indicate that while there are important ethnic differences in the incidence of poverty, far more important dividers are the rural:urban dichotomy with all rural groups being far more deprived than urban groups; the divisional gaps (Northern and Western having the largest poverty gaps); the gender dimension (far more females than males are in poverty); formal:informal dichotomy; and dominant income source of the households (with those dependent on Home Consumption and Casual Wages being far more vulnerable to poverty).

The data indicates that there is little need for ethnic criteria for the national distribution of resources for poverty alleviation: a policy based on need alone will apportion resources fairly between ethnic groups, rural and urban and by divisions.

The data clearly indicates the need to prioritise rural development, and especially a "Look North" policy and a "Look West" policy in the rural areas. For the poorest Rural Indo-Fijian group, there is an urgent need to speed up land use reform and resolve amicably the problems of expiring ALTA leases.

Poverty stakeholders need to strengthen Government's income policy instruments such as the Wage Council mechanisms to ensure that workers not protected by unions receive their timely cost of living adjustments to their incomes through government gazettes, where employers have a capacity to pay.

Much can be done to ensure that women are not unfairly burdened by poverty. Stakeholders may encourage national campaigns to ensure genuine "gender equality in pay for equal work" in all spheres of the economy, and the greater participation by women in the work-force. Stakeholders focus national economic policy in an attempt to foster "women-friendly" economic growth strategies where employment will be WTO compatible and incomes well above the poverty lines.

Of course, there needs to be the usual stakeholder attempts to strengthen the public services in housing, education, medical services, and good nutrition.

At the national level there is an urgent need to examine reducing protectionism in the areas affecting basic food and non-food items of consumption so as to reduce the cost of living for the poor. This has already happened to some extent in early 2008, as a response to the rapid increases in the prices of wheat, flour and fuel items.

Above all, stakeholders in poverty must discuss and disseminate the findings of this study to ensure that national policy debates are grounded in objective facts, especially to de-politicise poverty alleviation attempts.

There is an urgent need for national stakeholders in poverty to arrive at a consensus over the Basic Needs Poverty Line components (Food Poverty Line and Non-Food Poverty Line) for 2002-03 and also agree upon a method to adjust these values over time until the next revision following the next HIES, planned to commence in 2008.

Some recommendations are given in the Executive Summary.

Until the poor of all groups are seem to be the same,
each human tendril requiring equal attention

Annex 1 Errors and Grey Areas in the 1997 Fiji Poverty Report

The statistics in the 1997 FPR have been widely and intensively used by poverty stakeholders for the last ten years. It is unfortunate, however, that there are some errors in the quantitative data and analyses in that Report.

It is important to point these errors out here, since there will be an inevitable tendency to compare this study's data and results for the situation prevailing in 2002-03 with the corresponding data in the 1997 FPR.

The Poorest 20 percent of the Households were Not the Poorest 20 percent.

Chapter 5 of the 1997 FPR (pages 47 to 57) is titled "The Poorest Households in Fiji" and contains a whole range of statistics supposedly derived for the Poorest 20 percent of the households in Fiji.

These statistics have been derived from a decile distribution of households which have been ranked by Total Household Income (footnote to the source Table 22.1, Ahlburg May 1996).[142]

Unfortunately, this ranking method does not identify the "poorest" households, as it is universally accepted that a household's standard of living depends not just on total household income but also the size of the household that needs to be supported by that income. Households must therefore be ranked by Income per capita, or Income per Adult Equivalent, if the poor households are to be accurately identified.

The significance of the error in ranking by total household income may be gauged from comparable 2002-03 HIES results. In 2002-03, some 33 percent of the Bottom 20 percent of households ranked by Total Household Income are not in the 20 percent poorest ranked by Household Income per Adult Equivalent, while 35 percent are not in the bottom 20 percent ranked by Household Income per capita.

The corresponding proportions of poor households who should be in that "poorest 20 percent" are not in the poorest 20 percent ranked by Total Household Income.

Thus all the statistics quoted in Chapter 5 supposedly representing the conditions of the "Poorest 20 percent of households" are seriously flawed, as they do not accurately describe the poorest 20 percent at all.

Mistakes in Data classification and Analysis

The discussion of income distribution in Chapter 1 is also based on the decile distribution of households ranked by total household income but refers to Decile 1 as the "poorest" (1997 FPR, Table 1, p.17).[143] There were a whole range of errors:

[142] Although the 1997 FPR does not state in this chapter that the households have been ranked by Total Household Income, this is obvious from the column of data given for the average household size for the deciles – which rise from 4.1 for Decile 1 to 5.9 for decile 10. It is a fundamental characteristic of Fiji households that the poorest deciles have on average larger household sizes than the richest deciles.

[143] The comparisons with 1977 are valid, as the 1977 data is also on deciles of households ranked by total household income.

(a) Table 2 (1997 FPR p.18) is stated to represent a "Distribution of Per Capita Income". It is in fact a cumulative distribution (presumably of households) ranked by per capita income. This is quite a different distribution from the cumulative distribution of income given in Table 1 (p.17) which is based on households ranked by total household income. But then, Table 2 has a column on "Average Number of Working Adults" which is derived from data on households ranked by total household income. Thus two different distributions are mixed up in Table 2.

(b) Table 3 (1997 FPR p20) states that it is a "Cumulative Distribution of Household Income". It is not cumulative but the actual distribution by deciles. The figure of 2.2 percent given for Decile 2 in 1977 is wrong- the actual figure in Stavenuiter (1983) was 2.9 percent.

(c) While Table 3 appears to provide the context for statements made at the top of p.21: that "the bottom 20 percent of households did not change much, decreasing their share of income only 0.3 percent between 1977 and 1990-91". This statement (and the subsequent one regarding the shares of income of the Top 20 percent of households) does not refer to the data in Table 3, but a completely different set of data on households ranked by per capita income. Based on the latter data, the share of the bottom 20 percent of households decreases between 1977 and 2002 by 7 percent (or 0.4 percentage points).

(d) In Table 4 (1997 FPR, p21) it is suggested that the Gini Coefficient worsened between 1977 and 1990-91 from 0.42 to 0.46 for households ranked by Total Household Income (a deterioration of 10 percent), and from 0.43 to 0.49 for households ranked by per capita income (a deterioration of 14 percent). However, Stavenuiter's Gini coefficient of 0.424 for 1977 was a Lower Bound Gini[144], and the comparable Lower Bound Gini for 1991 was only 0.430 (an increase in inequality of an insignificant 1 percent). Similarly, Stavenuiter's LBG of 0.4262 for 1977 was for deciles of persons with households ranked by per capita income.[145] Table 4 in the 1997 FPR has mixed up Gini coefficients calculated by different methodologies.

(e) Table 5 of the 1997 FPR (p22) supposedly compares the average weekly household incomes in 1977 with those prevailing in 1990-91. The 1977 data is derived from Stavenuiter's estimates of households ranked by Total Household Income (with incomes adjusted for under-reporting) but in deciles of equal population groups. The 1990-91 data is of unadjusted household incomes, in a distribution of deciles of equal numbers of households, not population. The comparisons are therefore quite meaningless both because adjusted incomes of 1977 are being compared with unadjusted incomes of 1990-91 and deciles of households are being compared with deciles of persons.

(f) Figure 10 (1997 FPR, p.26) shows curves which allegedly lead to the conclusion that Indo-Fijians are represented more than proportionately amongst both the "poorest" deciles, and "the richest". However, the curves are derived from Table 22.1 of Ahlburg (1995) which gives the ethnic shares of households, for deciles

[144] May be derived from Table 2.3, Stavenuiter, p.23.
[145] Derived by Stavenuiter in his Table 2.4, p.24.

ranked by Total Household Income. Again, those households in the Bottom deciles are not necessarily the poorest, and many of the poor are in the upper deciles.

(g) Table 10 (1997 FPR p.25) supposedly shows separate Indo-Fijian and Fijian distribution of households and then compares the Average Household Incomes and Average Per Capita Incomes at each decile level. The implications are that by average household income, Indo-Fijian households are worse off in the bottom 5 deciles, but better off in the top 5 deciles; and that by per capita income, Indo-Fijians are worse off only in the bottom 2 deciles, and better off in the rest. These comparisons are quite invalid because the households are ranked by total household income, and not Income per capita or Income per Adult Equivalent. So again, the poorest amongst Indo-Fijians are not being compared with the poorest amongst Fijians.

(h) Table 22 (1997 FPR, p.39) gives the numbers of households which are in poverty for Fijians, Indo-Fijians, Others and Nationally. The National number is given as 34,600 when the ethnic components add up to 41,280 (some 19 percent higher).

With the poor of all groups growing from the same social tree..

Annex 2 Distribution of Total Household Income

A2.1 By Deciles of Households ranked by Total Household Income

Table A2.1 gives the distribution of total household income for 1977[146], 1991[147] and 2002. It may be seen that there is a general pattern of the lowest deciles of households, increasing their share of total household income, with the bottom 10 percent of households increasing their share by as much as 81 percent between 1977 and 1991.

Table A2.1 Total Income Distribution: 1977, 1991 and 2002 (ranked by Total HH Income)

Decile shares	Share of Tot HH income			Percentage Change		
HH Inc Dec	1977	1991	2002	1977/1991	1991/2002	1977/2002
Dec HHI 1	1.3	1.8	2.3	42	28	81
Dec HHI 2	2.9	3.3	3.7	13	11	26
Dec HHI 3	4.4	4.4	4.7	-1	6	5
Dec HHI 4	5.6	5.5	5.7	-1	4	3
Dec HHI 5	6.9	6.4	6.8	-7	7	0
Dec HHI 6	8.2	7.7	8.3	-7	7	0
Dec HHI 7	9.9	9.2	9.9	-7	8	0
Dec HHI 8	12.6	11.6	12.2	-8	5	-3
Dec HHI 9	16.6	15.1	16.3	-9	8	-2
Dec HHI top	31.7	35.0	30.1	10	-14	-5
All	100	100	100			

Table A2.2 indicates that the Bottom 30 percent of the households increased their share consistently, with the increase amounting to 23 percent between 1977 and 2002. The Middle 40 percent of households reduced their share between 1977 and 1991, but generally regained that loss between 1991 and 2002. Overall, there was little change between 1977 and 2002. The top 30 percent of households apparently saw little change between 1977 and 1991, but had a reduction between 1991 and 2002.

Table A2.2 Shares of Bottom 3, Middle 4 and Top 3 Deciles and Gini Coefficients

HH Inc Dec	1977	1991	2002	1977/ 1991	1991/ 2002	1977/ 2002
Bottom 3	8.6	9.5	10.6	10	12	23
Middle 4	30.6	28.8	30.7	-6	7	1
Top 3	60.8	61.7	58.7	1	-5	-4
Ratio Top3: Bot3	7.1	6.5	5.5	-8	-15	-22
LB Gini Coeff.	0.42	0.43	0.39	1	-9	-8

Overall, the ratio of the share of the Top 30 percent to the Bottom 30 percent gradually fell from 7.1 in 1977 to 6.5 in 1991 and further to 5.5 in 2002.

[146] Table 2.4, column 2, Stavenuiter p.24, unadjusted income data.
[147] Table 3, column 3, 1997 FPR, p 20..

Between 1977 and 1991, the Lower Bound Gini Coefficient barely increased by 1 percent from 0.42 to 0.43, but declined by 9 percent between 1991 and 2002 to 0.39. The overall change was a decline by 8 percent, indicating a general increase in equality of households ranked by total household income. For these comparisons to be valid, it would have to be assumed that the likely under-statement of incomes in the years 1977, 1991-92 and 2002-03 to not have any differential impact on the decile relativities in income shares.

This cannot be assumed. For instance, it may well be argued that between 1977 and 2002-003, there has been a significant increase in the size and range of economic activities, the increasing participation of companies who are more prone to under-state incomes, and the likely increase in the share of the black economy. All these factors would tend to suggest that the degree of under-estimation of the recorded income for the top three deciles would have increased over time. Hence it is a risky business to compare household income distribution between 1977 and 2002-03.

A2.2 By Deciles of Households Ranked by Income pc

Table A2.3 gives the shares of total household income by deciles of households ranked by Income per capita for 1977,[148] 1991[149] and 2002-03. One unusual feature is that the share of the top decile increases dramatically from 26.14 in 1977 to 38.4 in 1991, before dropping back to around 25.3 in 2002-03.[150]

Table A2.3 Share of Total Inc. (1977, 1991, 2002) for Deciles of HH ranked by Inc pc

	1977	1991	2002
HH Dec Ipc 1	1.83	1.8	3.07
HH Dec Ipc 2	3.52	3.2	4.49
HH Dec Ipc 3	5.42	4.1	5.63
HH Dec Ipc 4	7.11	5.1	6.36
HH Dec Ipc 5	7.45	6.1	7.80
HH Dec Ipc 6	8.99	7.1	8.82
HH Dec Ipc 7	10.42	8.5	10.26
HH Dec Ipc 8	12.54	10.8	12.73
HH Dec Ipc 9	16.58	14.9	15.56
HH Dec Ipc 10	26.14	38.4	25.27
All	100	100	100.00

Table A2.4 gives a summary of the shares of the Bottom 3, Middle 3 and Top 3 deciles of households. The data indicates significant swings between 1977, 1991 and 2002 at the top levels. Between 1977 and 1991, there appears to have been a significant worsening of 16 percent for the shares of the Bottom 3 deciles of households, and a worsening of 21 percent for the Middle 4 deciles of households. This may be expected given that the poorer households in 1990-91 HIES would have still been recovering from the aftermath of the 1987 military coups.

It is axiomatic that in the periods of harsh economic down-turn (such as those caused by coups), the lowest income households are the most vulnerable as they comprise the workers "at the margin". Thus casual workers are usually the first to face lay-offs and reductions in wages. We have seen in Chapter 6 that a much higher proportion of workers earning Casual Wages are below the poverty line compared to those earning Permanent Wages.

[148] 1977 data: Stavenuiter, Table 2.3, p.23, unadjusted income shares.
[149] 1991 data: 1997 FPR (p18), Table 2, second column (also Ahlburg, Table 5.1)
[150] Such massive changes in the share of the top decile of households is unrealistic and casts some doubt on the accuracy of the 1991 data.

On the other hand there were large gains of 16 percent for the Top 3 deciles. Consequently, the ratio of the Top 3 to the Bottom 3 rose from 5.1 to 7.0. It is not surprising therefore that the Lower Bound Gini Coefficient rose from 0.36 to 0.46- a significant worsening of 28 percent in inequality.

Table A2.4 Income Shares of Deciles of HH Ranked by Income pc (1977, 1991, 2002)

	1977	1991	2002	1977/1991	1991/2002	1977/2002
Bottom 3	10.8	9.1	13.2	-16	45	22
Middle 4	34.0	26.8	33.2	-21	24	-2
Top 3	55.3	64.1	53.6	16	-16	-3
Ratio Top3: Bot3	5.1	7.0	4.1	37	-42	-21
LB Gini Coeff.	0.36	0.46	0.33	28	-29	-9

However, between 1991 and 2002, Table A2.4 suggests that the Bottom 3 deciles more than regained its share (increasing by 45 percent) while the Middle 4 almost regained their share (increasing by 24 percent). The Top 3 in this latter period apparently lost ground. The LB Gini showed an extremely large improvement in income distribution, reducing its value by 29 percent.

Looking at the overall change from 1977 to 2002, the Bottom 3 apparently improved their share by 22 percent. The Middle 4 lost ground by 2 percent, while the Top 3 lost by 3 percent.

The LBG Coefficient, which provides one summary statistic of income distribution, increased from 0.36 in 1977 to 0.46 in 1991 (a worsening of 28 percent) but then declined to 0.33 (an improvement of 29 percent). The overall final LBG was 0.33 percent, suggesting an overall significant 9 percent improvement in income distribution between 1977 and 2002.

A similar conclusion may be had from the ratio of the Top 3 to the Bottom 3 deciles, which rose from 5.1 in 1977 to 7.0 in 1991, and then fell to 4.1 in 2002: an overall decline from 1977 to 2002 of 21 percent.

However, analysis of the distribution of income by deciles of households is fraught with danger even if ranked by Income per capita, because the major two ethnic groups in Fiji have very different household sizes: Fijian households at each decile level are more than 25 percent larger than Indo-Fijian households. Hence a particular number of Fijian households will have a much higher total income than the same number of Indo-Fijian households.

This would not be too important if at each decile, the ethnic proportions of households remained the same from one reference period to the next. That however, has not been the case. Since 1987, the massive migration of mostly better qualified and better-paid Indo-Fijian households has drastically changed the ethnic proportions at the Middle 4 and Top 3 household deciles. This in itself may have had a major impact on shares of total income accruing to the Bottom 3, Middle 4 and Top 3 deciles of households.

Annex 3 Nutrient Content of The 1977 Food Poverty Lines Used by Stavenuiter (1983) and the 1997 Food Poverty Line used by the 1997 Fiji Poverty Report

The following are the nutrient contents of the 1977 Food Poverty Line baskets given in Table 3.1 (Chapter 3), and the 1997 Food Poverty Line baskets (Table 3.2 in Chapter 3) used by the Fiji Poverty Report.

They were calculated by the author using the nutritional coefficients supplied by the Fiji Food and Nutrition Centre.

Table A3.1 Nutritional Content of 1977 and 1997 FPL Baskets

		1977	1977	1997	1997
Data	Requirements	Fijians	Indo-F	Fijians	Indo-F
Energy	2200 k cals	3351	3122	3785	2512
Protein	55 gm	98	115	105	76
Fat	Less than 65 gms	87	78	170	97
Carbohydrate	200 to 300 gms	557	501	474	343
Thiamin	1.2 ug	1.3	1.3	1.4	1.3
Riboflavin	1.3 ug	2.0	1.9	1.9	1.5
Niacin	16 mg	30	30	21	16
Vitamin C	45 gms	166	26	268	108
Vitamin A	600 units	1361	859	2124	854
Retinol_ug		677	553	244	231
b-carot-eq_ug		4113	1828	11230	3724
Sodium	920 to 3200 mg	1955	2022	1111	750
Potassium	1950 to 5460 mg	4342	2437	5723	2488
Magnesium	260 mg	593	344	686	315
Calcium	600 mg	1593	1388	1335	870
Iron	27 to 9 mg	15	15	22	12
Zinc	14 to 4.2 mg	11	8	15	7

Source: Calculated by the author.

Annex 4 Economies of Scale in Unit Food Expenditure

The Food Poverty Line is first calculated for a household of size 4 Adult Equivalents, after which the per Adult Equivalent value is estimated by dividing by 4. To this is added the per Adult Equivalent value for the Non-Food Poverty Line to obtain the BNPL pAE value to judge.

For each household, there is calculated the Income pAE value, which is then compared with the BNPL pAE value to decide whether a household is in poverty or not. This process is applied to all households, whatever the size.

A problem is that actual expenditure patterns on food by households indicate that there are economies of scale associated with household size, for both Fijians and Indo-Fijians.

Table A4.1 Food Exp. pAE pw (by household size)

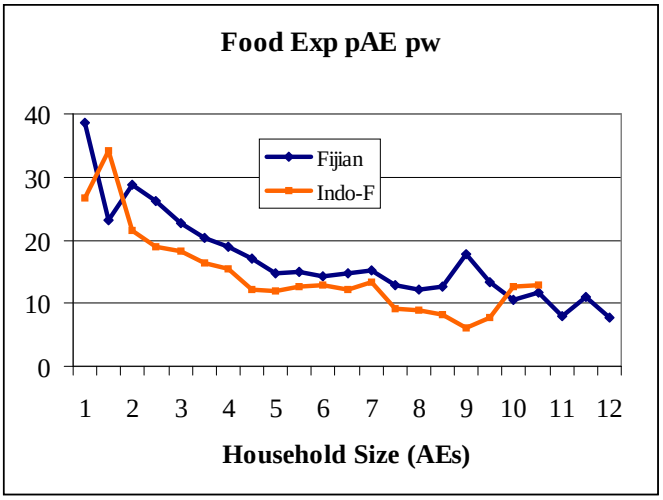
AEs	Fijian	Indo-F	All
1	38.57	26.73	33.35
1.5	23.26	34.21	26.13
2	28.71	21.48	24.32
2.5	26.21	18.95	22.59
3	22.70	18.34	20.25
3.5	20.25	16.36	18.31
4	18.92	15.44	17.05
4.5	17.14	12.17	15.08
5	14.76	11.99	13.40
5.5	14.94	12.59	14.05
6	14.16	12.94	13.64
6.5	14.66	12.07	13.83
7	15.15	13.32	14.63
7.5	12.77	9.17	11.79
8	12.09	8.84	11.38
8.5	12.55	8.27	11.31
9	17.84	6.08	15.39
All	17.41	14.95	16.33

Graph A5.1 indicates the general patterns of decline in unit costs for food. For Fijians, the unit costs decline to AE = 5, and then level off until AE = 8.5 after which it generally falls again.

For Indo-Fijians the unit cost falls until AE=4.5 then levels off until AE=6.5 then eventually falls again, before rising after AE of 10.

The point to note is that households of different size have very different food expenditures per Adult Equivalent, compared to the standard household of size 4 AE.

Graph A4.1 Food Exp. pAE pw (by household size)



Thus Table A4.2 indicates that a Fijian household of size 1 AE, spends on average 104 percent more than one of size 4 AE, with the difference still being 20 percent at household size 3 AE.

Table A4.2 Perc. Diff. from Food Exp. pAE pw for Household Size 4 AE

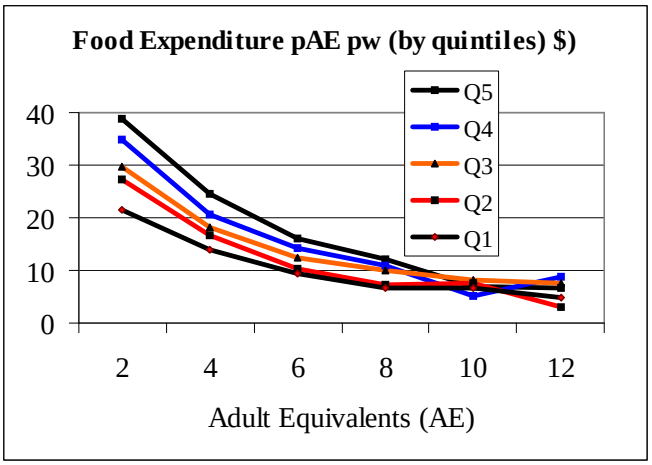
	Fijian	Indo-F	All
1	104	73	96
1.5	23	122	53
2	52	39	43
2.5	39	23	32
3	20	19	19
3.5	7	6	7
4	0	0	0
4.5	-9	-21	-12
5	-22	-22	-21
5.5	-21	-18	-18
6	-25	-16	-20
6.5	-23	-22	-19
7	-20	-14	-14
7.5	-32	-41	-31
All	-2	0	-1

The corresponding differences are 73 percent falling to 19 percent by size 3 AE. Some 17 percent of Fijian households and 26 percent of Indo-Fijian households are below size 3.5 AE. For these households, a Food Poverty Line based on a standard household of size 4 AE, would be significantly under-estimating their FPL requirements.

On the other hand, one can see that unit expenditures on food for households of size 5 and upwards are around 20 percent less than that spent by the standard household. The BNPL based on the standard BNPL would be over-estimating these households to be in poverty. Some 51 percent of Fijian households and 36 percent of Indo-Fijian households have household size 5 or more.

These economies of scale features are present amongst both upper income families and lower income families, although the data indicates that the economies of scale reduce the lower the quintile.

Graph A4.2 Food pAE pw (by Quintiles and HH size)



Graph A4.2 indicates a fairly regular set of curves for Food Expenditure pAE pw by household size (AEs), with the curve for Quintile 5 being highest, followed lower down by Quintiles 4, 3, 2, and 1 being the lowest. The curves all converge towards the higher values of household size. It would seem that those with higher incomes (Quintile 5) in small households do spend significantly more than those with lower incomes.[151]

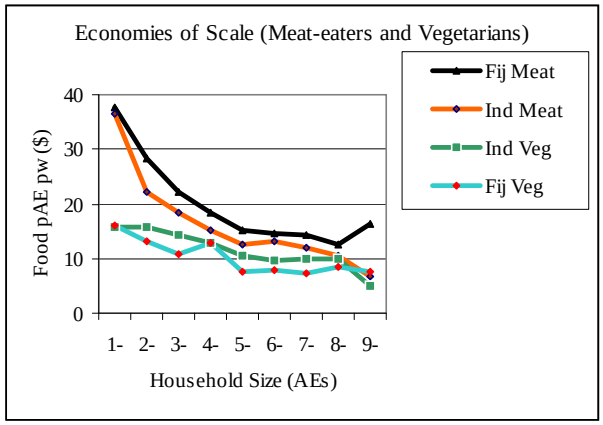
Further research would be needed to establish how significant the results would be if economies of scale could be taken account of, when designing Food Poverty Lines

[151] This should not be surprising as there is likely to be more variety and possibly greater wastage in the higher income households.

and Basic Needs Poverty Lines. Would the WB definition of Adult Equivalents effectively allow for the economies of scale effects on food consumption?

Another interesting issue is whether vegetarian households also have economies of scale in food consumption. Graph A4.3 indicates that there are economies of scale for both Meat-eaters and vegetarians, but for both Fijians and Indo-Fijians, the meat-eating diets indicate far more pronounced economies of scale effects.

Graph A4.3 Food Exp. per AE pw (Meat-eaters and Vegetarians) by household size



However, the vegetarian curves are so far below that for the Meat-eaters, that any FPL designed with the inclusion of meat, would be over-estimating the values for all those who are vegetarians, small and large households alike. This issue is an important one for Indo-Fijian households, of whom a significant proportion is indicated to be vegetarian by choice.

Overall, it would seem that simply using the unit cost of food designed for a standard household of size 4 AE, may lead to errors in identifying households in poverty and not in poverty, both for meat-eating and vegetarian households, for small households and large households.

Underlying the analysis is the assumption that household size is not related to the any systematic tendency towards better or worse nutritional intake. That may not be the case. Further research is called for.

Annex 5 Economies of Scale in Unit Non-Food Expenditure

Table A5.1 gives the Non-Food Expenditure per AE for Quintiles 1 and 2. Graph A4b.1 makes clear that for three of the groups there are strong downward trends of declining unit expenditures (that for Rural Indo-Fijians seems to show some statistical anomalies in the data).

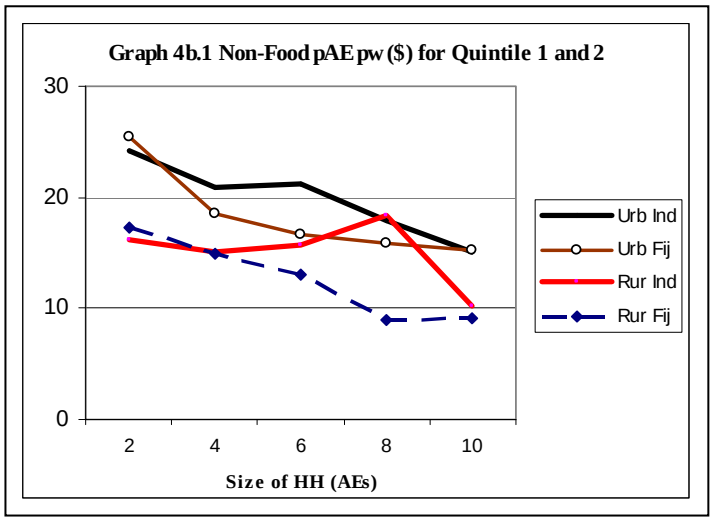
Table A5.1 Non-Food Exp. pAE for Quintiles 1 and 2

AE	Rur Fij	Rur Ind	Urb Fij	Urb Ind
2	17.22	16.24	25.37	24.14
4	14.95	15.12	18.46	20.85
6	13.03	15.73	16.59	21.20
8	8.99	18.35	15.83	17.94
10	9.07	10.21	15.17	15.06
All	12.90	15.61	16.85	20.91
Percent Diff from Value for 4AE				
2	15	7	37	16
4	0	0	0	0
6	-13	4	-10	2
8	-40	21	-14	-14
10	-39	-32	-18	-28
All	-14	3	-9	0

For household size of 2 AE, the unit expenditures are significantly above that for 4 AE especially for Fijians- by 15 percent for Rural Fijians and 37 percent for Urban Fijians. The differences are smaller but still significant for Indo-Fijians- by 7 percent for Rural Indo-Fijians and 16 percent for Urban Indo-Fijians. The converse is true for large households: at household size 8 AE, the difference is -40 percent for Rural Fijians and -14 percent for both Urban Fijians and Indo-Fijians.

Overall, the average Non-Food Expenditure pAE for Rural Fijians is -14 percent lower than that for households of size 4 AE and -9 percent for Urban Fijians.

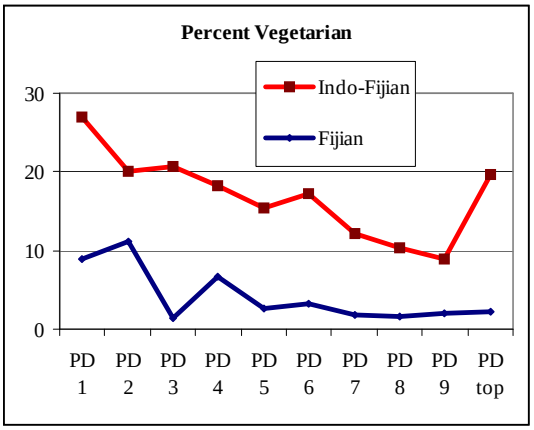
In the main text, the NFPL values are therefore calculated a household of size 4AE using regression averages for the bottom 5 deciles.



Annex 6 Vegetarianism and Unit Food Expenditure

A critical component of the BNPL (the standard for poverty) is the cost of the Food Poverty Line, which is a baskets of foods thought to provide the minimum nutrition for the household.

Graph A6.1 Percent of HH Vegetarian



Unlike the FPL baskets for Asian or African countries, the FPL baskets in Fiji have historically included some meat, with the proportion increasing, the more recent the FPL. Meat is however a relatively more expensive way of providing the basic nutritional requirements than a purely vegetarian diet.

While the inclusion of meat is justified by reference to the fact that even the poorest of Indo-Fijian and Fijian families do eat meat (and hence must be included in the standard FPL baskets), there are significant proportions of the Fiji population which are vegetarian by choice, especially amongst Indo-Fijians.

Table A6.1 Perc. Diff. (Veg-Meat) diet costs

PDec	Fijian	Indo-F
PD 1	-35	-33
PD 2	-27	-23
PD 3	-18	-29
PD 4	-22	-7
PD 5	-18	-8
PD 6	-29	-32
PD 7	-14	-25
PD 8	-17	-24
PD 9	-33	-20
PD top	-54	-27
All	-40	-28

While the 2002-03 HIES did not identify households which were vegetarians, a rough effort was made by labelling those as vegetarian which did not have any expenditure at all on meats. On average, some 4 percent of Fijians had no meat in their diets, while 17 percent of Indo-Fijians had no meat at all.

Of course, some of these may simply have not recorded meat expenditures because of poverty rather than a diet choice. Graph A6.1 gives the proportion of households within each decile, who did not have any meat in their recorded diets. For Indo-Fijians, there is a very strong down-ward trend falling from 27 percent at the bottom decile to 10 percent at the ninth decile (with the proportion sharply rising for the tenth decile).[152]

The strong down-ward trend would suggest that some part of the explanation of the non-recording of meat at the lower deciles is due to poverty, rather than personal choice. The fact however that from the fifth decile onwards, there are still significant proportions not buying meat would suggest that there are choices being made towards vegetarianism

[152] This may be a reflection of the greater health-consciousness of the Indo-Fijian upper classes.

Amongst Indo-Fijians, a minimum of 10 percent, and possibly as much as 20 percent of households are vegetarian out of choice, rather than inability to buy the more expensive meats.[153]

The Food Expenditure pAE for vegetarian diets is much lower than the cost of meat-inclusive diets for both Fijians and Indo-Fijians, at all decile levels: in aggregate by 40 percent for Fijians and by 28 percent for Indo-Fijians.

It should be noted that the percentage differences are large for both the lower deciles and the upper deciles, for both Fijians and Indo-Fijians. For the latter certainly, financial constraints would not be an important factor in the exclusion of meat from the diets.

Facts unfurl the nature of poverty...

[153] It should be kept in mind, however, that many vegetarian items such as lentils, have become relatively more expensive, possibly partly because of the adoption of vegetarianism by the more affluent persons in developed countries.

Annex 7 Protectionism and Increased Incidence of Poverty

A difficult policy issue arises out of the current economic reality in Fiji that a large number of the items that comprise the Food Poverty Line and non-food items that go into the Non-Food Poverty Line, are produced under heavy tariff and other protection, directly or indirectly.

Heavily consumed food items like rice, tinned mackerel, potatoes, sausages, biscuits, have 27 percent duty protection. Flour has 15 percent. Non-food basic items like toilet paper, clothing, writing paper have 27 percent duty protection.

The cost of basic housing (and eventually rents) increases substantially because of 27 percent duty protection on roofing iron, cement, building timber, nails, structural steel, fencing and other wire.

Table A7.1 Fiscal Duty f Rates for Fiji 2006, 2008

	2006	Jan 2008	Jun 2008
Rice	27 perc	15	0
Flour	15 perc	15	0
Mackerel	27 perc	15	0
Potatoes	27 perc	5	
Soya sauce	27 perc	27	
Oils	15 perc	15	0
Margarine	15 perc	15	
Sausages	27 perc	27	
Biscuits	27 perc	27	
Beer	$2.60/litre	$2.84	
Spirits	$40/litre	$44.56	
Roofing iron	27 perc	27	
Cement	27 perc	27	
Steel	27 perc.	27	
Paper	27 perc	27	
Toilet paper	27 perc	27	

Tele-communications monopolies: feeds into every cost. They are also in the process of being deregulated and exposed to competition.

Most pervasive are the monopolies that Government has granted the telecommunications industry, for land-based networks and mobiles, and for both domestic and international traffic.[154] These monopolies have effectively increased the cost of doing business throughout Fiji. They have also stunted the growth potential of an extremely promising investment and growth area for Fiji- call centre and data-processing industries. With Fiji having a comparative advantage in these two industries[155] these could easily have been employing more than thirty thousand workers, at incomes probably four times our GDP per capita. The growth impact on poverty would undoubtedly have been significant.

The protection has been justified by previous governments through the employment benefits. Yet the reality is that the total cost to consumers of the protection is far greater than the value of the jobs created. Moreover, through the discouragement of investment and economic growth, there are significant long-term costs for the entire economy at large.

[154] For a simple account of these monopolies and the contradiction they pose for the Fiji public, read "Between the Devil and the Deep Blue Sea" in To Level the Playing Fields (Narsey, 2004, Vanuavou Publications).

[155] Both from the point of view of our time zone relative to North and South America, East Asia and Europe, and the good English-speaking and computer literacy skills of Fiji's young citizens.

For the poorest people in the country, their purchasing power is significantly reduced because prices of basic food and non-food items are un-necessarily high because of the protection. Were the protection to be reduced or eliminated altogether, the prices of the related items of consumption would decline, and the real value of their wages would increase significantly. For poverty analysis, the cost of the FPL and the BNPL would be lower, and the incidence of poverty would therefore also be lower.

Of course, there would be some costs in terms of reduced employment, but the benefits to the economy at large, and the poorest in particular, would probably outweigh the costs. The Interim Government in May 2008, announced a temporary removal of duties from some basic food imports, although the details are not currently clear.[156]

It is important that progress on this front be undertaken following thorough industry by industry analysis of effective rates of protection so as to rank the industries by actual value added being contributed, with the least important industries being the first targets of duty reductions.

[156] Some of these duty reductions may have to be reversed if the associated local manufacturers threaten closure and serious losses of jobs.

Annex 8 The BNPL set as 50 percent and 60 Perc. of Median Income

In OECD countries, the Basic Needs Poverty Line takes its reference from the median income, on the grounds that poverty should be defined in reference to the common person or household- right at the middle of the distribution.[157] The median Income per AE pw was $49.98 in 2002-03.

Alternatives that are used are 50 percent or 60 percent of the median income. In the case of Fiji households in 2002-03, these two equate to $21.64 and $25.96 pAE pw. These are considerably lower than the standards used in this study, or that used by the 1997 FPR.

Table A8.1 Incidence of Poverty with BNPL relating to Median income

BNPL	BNPL pAE pw	Perc. in Pov.
50 Perc. of Median	21.64	15.2
60 Perc. of Median	25.96	22.4

Table A8.1 indicates that the respective incidence of poverty are 15.2 percent and 22.4 percent. These are also significantly below the rates of poverty calculated using the FPL and NFPL methodology of this study.

Note that a 20 percent increase in the BNPL from 50 percent of the median income to 60 percent of the median income, increases the apparent incidence of poverty by 48 percent. The choice between the two standards is critical.

This approach has several weakness. First, it will show a reduction in poverty even if the incomes of the poor are falling, as long as the incomes of the non-poor are falling faster. A reduction in poverty will show up only if there is a change in the relative income. Second, the incidence of poverty is insensitive to economic growth if income inequality does not change, with the only way to reduce poverty would be to reduce inequality.

Of course, these “weaknesses” are part of the relative approach, in that poverty is defined relative to the population, not to some absolute standard. This approach essentially judges what is happening to the poor with reference to what is happening to the “middle” or “average” person in the population.

[157] The median is preferred to the average as the latter may be significantly influenced by the higher household incomes.

Annex 9 The BNPL set as US$1 per day[158] and US$2 per day (PPP)

Table A9.1 Incidence of Poverty
(BNPL =US$1 and US$2 PPP per day

BNPL	BNPL pAE pw	per 4 HH	Percent In poverty.
US$1 day =	F$7.87	$31.50	0.5
US$2 per day	F$15.75	$63.00	6.4

The commonly used international standards are US$1 or US$2 per day, at Purchasing Power Parity. For Fiji, allowing for the amendment to $1.07 in 1993 prices and to $1.31 in 2004 prices, these original standards translate to F$7.87 and F$15.75 pAE pw, using World Bank PPP conversion factors and the official exchange rates given for 2002.[159]

The associated incidence of poverty (Head Count Ratio) is then estimated at 0.5 percent and 6.4 percent respectively.

Note that while the PPP methodology is commonly used to compare the incidence of poverty internationally, the resulting BNPLs for Fiji seem far too low. Even at the higher US$2 per day standard, an income of $63 per week for a household of size 4 Adult Equivalents, would barely cover the essential food costs, let alone other non-food items such as housing, transport and education of children.

Poverty always lurks, beneath the prosperity of the many..

[158] The US$1 per day PPP was amended in 1993 to US$1.08 in 1993 prices and $1.31 in 2004 prices.
[159] The official exchange rate was $2.187 per US$1. The conversion factor given for 2002 was 0.405. This gives the PPP rate for US$1 as F$0.886.

Annex 10 Incidence of Poverty According to Expenditure pAE pw

It might be thought that with Expenditure higher than Income for the lowest three deciles (see Chapter 7) then perhaps the incidence of poverty, by an expenditure criterion, may be lower than by the income criterion.

But the poverty incidence results in Table A10.1 indicate that the incidence of poverty by the expenditure criteria is much higher for all categories- being about 43 percent for all Fiji, at an Expenditure pAE pw of $33, for households ranked by Expenditure pAE pw.

Table A10.1 Incidence of Poverty For Households Ranked by Expenditure pAE pw

	BNPL pAE pw ($)					
	$30	$31	$32	$33	$34	$35
Fijian Rural	44	47	48	50	53	55
Indo-F Rural	51	53	55	57	59	62
Others Rural	61	61	61	65	67	67
Fijian Urban	29	30	31	32	34	35
Indo-F Urban	25	27	29	30	32	33
Others Urban	15	17	18	20	20	22
Fijian	39	41	42	44	46	48
Indo-Fijian	37	40	41	43	45	47
Others	28	30	30	33	33	35
All rural	47	49	51	53	55	58
All Urban	26	28	29	30	32	33
ALL FIJI	38	40	41	43	45	47

Compared to the results in Table 6.9, what has changed, however, are the ethnic relativities. The Urban Fijian incidence of poverty is somewhat higher than that for Urban Indo-Fijians (32 percent and 30 percent respectively at BNPL pAE pw of $33). Consequently, the aggregate incidence of poverty for Fijians is slightly higher than that for Indo-Fijians (44 percent and 43 percent respectively at BNPL pAE pw of $33).

Also widened is the rural:urban gap, with rural poverty being 53 percent compared to 30 percent for urban areas, at a BNPL pAE pw of $33.

It is significant that at $33 pAE pw, some 57 percent of Rural Indo-Fijians and 50 percent of Rural Fijians are in poverty: they are clearly spending far less than their incomes would allow them to.

Annex 11 The significant economic progress of indigenous Fijians

Several governments and indigenous Fijian political parties following the political coup of 2000 have emphasised that for political stability in Fiji it is essential to implement affirmative action policy to bring indigenous Fijians to par with Indo-Fijians.

Table A11.1 Av. HH Income pw ($)

	1977	1991	2002
Fijian	65.25	173.65	249.46
Indo-Fijian	78.63	217.89	228.88
Others	119.77	271.08	367.41
All	74.96	199.31	245.24
Percent(Fij-Ind)	-17	-20	9

While this study is focused on poverty, including its ethnic dimensions, it is useful to also bring out the significant advances made by indigenous Fijians relative to Indo-Fijians, given the obvious political importance of this comparison.

Graph A11.1

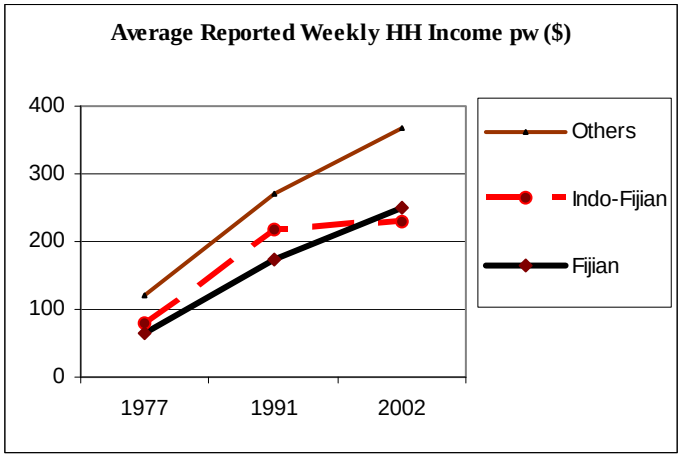


Table A11.1 gives the Average Household Incomes in 1977, 1991 and 2002.[160] The ethnic gap rose from -17 percent in 1977 to -20 percent in 1991, but reversed to +9 percent in 2002.

These averages are for unadjusted incomes as reported to the various HIES. Almost certainly the Indo-Fijian averages are under-estimated quote significantly, hence the gaps in 1977 and 1991 are likely to have been much larger. On the other hand, the +9 percent gap in favour of indigenous Fijians is likely to be smaller, and possibly negative as well, if under-reporting of incomes could be adjusted for.

Table A11.2 Share of Total Income

	1991	2002
Fijian	41	51
Indo-Fijian	54	43
Others	5	7
All	100	100

Nevertheless, it is clear that there has been at least a convergence of average incomes in Fiji if not a reversal. These declines for Indo-Fijians in Average Income household may be attributed to the emigration of the better qualified and better paid Indo-Fijians, leading to a decline in the average incomes.

Table A11.2 indicates there definitely has been a major reversal of percentage shares in the total income of the country. The Fijian share rose from 41 percent to 51

[160] The 1977 data is from Stavenuiter (1983), the1991 data is from Ahlburg's (1995, 1996) analysis of the 1991 HIES (used in the 1997 FPR). The 2002 data is from the 2002-03 HIES.

percent, while the Indo-Fijian share fell from 54 percent to 43 percent. The decline in the Indo-Fijian share of total income may be attributed to both the decline in average income, as well as the total numbers of income earning Indo-Fijians in the economy.

Table A11.3 Fijian share of Income Sources

	1991	2002	Perc. Ch.
Home Consumption	81	82	2%
Wages & Sal (all)	44	49	12%
Agric. Business	49	55	12%
Commercial Bus.	9	29	223%
Other Income	54	50	-7 %
Total HH Income	41	51	24%

There has also been a qualitative change in the relative importance of Fijians in various income sources. Thus the Fijian share of reported Commercial Business income has risen from 9 percent in 1991 to 29 percent in 2002, that for Agricultural Business income has risen from 49 percent to 55 percent and that for Wages and Salaries has risen from 44 percent to 49 percent (Table A11.3). While there is still a long way to go for parity in business, there have certainly been major strides made in the formal sectors of the economy.

Table A11.4 Percentage Changes 1991 to 2002 in Distribution of Households (by ethnicity)

	Fijian	Indo-F	Other	All
	Ranked by Total HH Income			
Bottom 3	50	-3	0	16
Middle 4	10	23	0	16
Top 3	23	0	77	16
All	23	7	28	16
	Ranked by Income per capita			
Bottom 3	59	-12	-4	16
Middle 4	11	21	15	16
Top 3	13	12	62	16
All	23	7	28	16

Source: 1991 numbers estimated by author.

An interesting perspective may also be obtained from the broad changes indicated between 1991[161] and 2002 in the ethnic distribution of households, which overall increased by just around 16 percent, nationally, with 23 percent for Fijians and a much lower 7 percent for Indo-Fijians (Table A11.4).

Ranked by Total Household Income it would appear that the numbers of Fijian households increased far more at both the Bottom 3 deciles, and the Top 3 deciles of households. At the bottom they increased by 50 percent (compared to -3 percent for Indo-Fijians) and at the top by 23 percent (compared to 0 percent for Indo-Fijians).

Ranked by Income per capita, Fijians had a large increase of 59 percent for the Bottom 3 deciles, but pretty similar to that for Indo-Fijians in the top 3 deciles of households (13 percent and 12 percent respectively). This difference between the results for the two ranking methods is largely due to the fact that indigenous Fijians have a much higher dependency ratio (especially children) than Indo-Fijians. Hence the advantage of relatively higher average household incomes, is undermined for indigenous Fijians by their larger household size.

[161] The distribution of households for 1991 may be obtained indirectly from tables given in Ahlburg, or from the 1991 dataset stored in the FIBoS, although the results do not match at the finer level because of adjustments made by Ahlburg. The table here uses comparisons between the 2002 results and the 1991 results from the 1991 database stored in the FIBoS.

The latest national distribution of income at the individual level is to be obtained from the 2004 Employment and Unemployment Survey. Table A11.5 adds the unpaid household workers to a table of values for incomes received by Fijian and Indo-Fijian workers from their main activity in 2004.[162]

Table A11.5 Distribution of Workers by Income (2004 EUS)

Income to	Fijian	Indo-F	%(Fij-Ind)
	Numbers		
HH work	49793	67494	-26
to 3000	86883	39815	118
to 7000	47179	55056	-14
to 10000	20107	20024	0
to 40000	20665	21732	-5
> 40000	1513	1345	12
All	226140	205466	10
	Vert. Percent		
HH work	22	33	-33
to 3000	38	19	98
to 7000	21	27	-22
to 10000	9	10	-9
to 40000	9	11	-14
> 40000	1	1	2
	100	100	

There were far more unpaid Indo-Fijian household workers than Fijian household workers (some 18 thousand more). There were some 46 thousand more Fijian workers earning up to $3000. Thereafter, the numbers were reasonably balanced, with there being reported a slightly higher number of Fijians earning more than $40 thousands.[163]

Another perspective on the overall improvement of Fijians in the formal sector, may be obtained from Fiji Islands Revenue and Customs Authority data on tax payers who have had their incomes assessed. Table A11.6 indicates that overall there were some 13 percent more Fijian assessed income tax-payers in 2004 than Indo-Fijian income tax-payers. Moreover, the total assessed incomes of Fijians were also some 18 percent more than that for Indo-Fijians.[164]

Table A11.6 FIRCA data on Income Tax-payers assessed (2004)

	Fijian	Indo-Fijian	Others	All	Perc. (Fij-Ind)
Tax-payers Assessed	35451	31381	4657	71489	13
Total Assessed Incomes ($m)	539	455	149	1143	18
Share of Total	47	40	13	100	18
Average Income	15196	14514	31988	15990	5

Source: Estimated from FIRCA data supplied to author.

Of note is that the Average Income of these assessed tax-payers, indicated a 5 percent margin in favour of Fijians. This would definitely not have been the case twenty years ago, and probably not even a decade ago.

[162] The income distribution data is derived from Narsey (2006b) Table 6.8.
[163] The numbers of Indo-Fijians and Others earning above $40,000 are probably quite significantly under-stated.
[164] These include those who filled in returns as Wages and Salaried persons (Form S) and those filling in Form B. Income from Form C (company tax returns) are not included as there is no ethnic identifier for companies.

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