

Role of migration in inequality: An analysis in the context of Kerala

Dissertation submitted in partial fulfillment of the requirements for the award of
the degree of Master of Philosophy in Economics of the Jawaharlal Nehru University

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M.Phil. Programme in Applied Economics
(2010–12)



CENTRE FOR DEVELOPMENT STUDIES

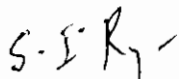
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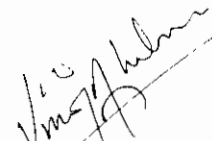
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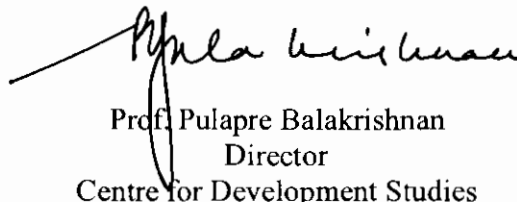
Certified that this study is the bona fide work of **Raju John**, carried out under our supervision at the Centre for Development Studies.



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Dedicated to

My family members and well wishers

Acknowledgment

It will be an in gratitude if I do not mention the names of some persons who were very helpful in doing this work.

My supervisors **Prof. S. Irudaya Rajan** and **Dr .Vinoj Abraham** are the names that need to be mentioned first. Despite their busy schedules they always found time to interact with me and cleared my doubts. As supervisors, they took at most care in the quality of work but their approach was friendly and less formal. Yet they always allowed me to think freely and did not imposed anything upon me. So research was never a burden for me. I express my sincere gratitude towards them. I would also like to thank Dr. U.S Mishra for his guidance on inequality decomposition.

Sreeja chechi and Sunitha chechi; research assistants at Research unit on international migration, CDS helped me a lot in my data analysis. Being persons who are familiar with data base generated by Migration monitoring studies (MMS), on which my study is based upon, their help solved many of my data related problems. They also taught many of the tools and tricks of SPSS based data analysis. I thank them for their support and guidance.

I would also like to thank staff in CDS administration and K.N Raj library. The names that needs special mention are Anitha Ma'm, Sreeram Sir, Anil Sir, Sivan Chettan and Vineeth (K.N Raj library) and Suresh Sir, Soman Sir , Geetha Ma'm, Syamala Chechi and Ajayan (CDS administration).

In the tight academic life at CDS, the company of my friends and seniors Siamlal, Izudheen, Rahul, Samir, Vijaya Suryan, Beena Chechi, Sumita Chechi etc was a source of relief. I thank them for their company. Beena chechi helped me a lot in my dissertation work too.

I am recollecting the love and support I received from my family members. They are the real source of my strength. Their support and prayers were with me in all walks of my life.

There are lots of persons who are not mentioned here due to my poor memory or ignorance yet played their own part in building of this thesis. I thank all of them.

Needless to say, all errors and omissions are mine.

ABSTRACT OF THE DISSERTATION

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Kerala had been faced with widening inequality in the recent past. While many studies have looked various dimensions of inequality, one of the most important factors that have been missed out is the role of migration and remittances. Remittances sent by international migrants were as much as a third of (31 percent) of Kerala's Net State Domestic Product (Zachariah and Rajan 2010,2012). Over the past one decade remittances coming to Kerala increased by 254% (based on Zachariah and Rajan 2010) but the proportion of households that has received remittances is stagnant at about 17 percent since 1998 (Zachariah and Rajan 2010,2012). The vast majority of Kerala households, over 80 percent, are still not benefiting from migration. In this context I asked the question whether remittances and migration had some bearing on inequality situation in Kerala? This study tried to understand the impact of migration and remittances on Kerala's inequality scenario. I have used the database generated by 1998 and 2008 Kerala Migration Survey (KMS) conducted by Centre for Development Studies, Thiruvananthapuram for my purpose. My study compared standard of living of migrant households with non-migrant households. The study analysed migration–inequality link using both information on proxies of income of households and assets held by households. But more importance was given to assets. My analysis showed that migrant households had a higher standard of living than non migrant households. The distribution of indicators of standard of living also favored migrant households. A decomposition of inequality by income source confirmed a positive role to remittance income in causing inequalities in income. A Theil index decomposition of asset ownership showed that inequalities between migrant and non migrant households contribute positively to overall inequality in asset holding. Migration was creating inequalities in mobility not only between migrant and non migrant households, but also between households at different stages of migration process. It was also found that Migration reduced gender based inequalities but reinforced caste based inequalities. Migration and remittances had a positive impact on inequality between migrant and non migrant households. But the magnitude of impact was not very high. However, given that even if the effect of migration on inequality was small in comparison to other unexplained factors, the dynamic analysis of migration panel data showed that its role in inequality was significant. In short, though migration may not be a cause to worry as an explanation for inequality currently, it has the potential to become one in future, as shown in the panel analysis.

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List of Abbreviations

HH = Households

M = Migrant households.

NM = Non migrant households .

M98 = Migrant households surveyed in 1998

NM98 = Non migrant households surveyed in 1998

M08 = Migrant household surveyed in 2008.

NM08 = Non Migrant household surveyed

NMs = Non migrants (sometimes used as nm s alos)

Ms = Migrants (sometimes used as m s also)

SOL = Standard of living

SOLI = Standard of living indicator

KMS = Kerala Migration Survey

MMS = Migration monitoring Studies

CDS = Centre For development studies

NTM = Non migrant turning migrants

MTN = Migrant turning Non migrant

MRM = Migrant remaining migrant

NRN = Non migrant remaining non migrant

98 = 1998

08 = 2008

Rs = Rupees

% = Percentage (sometimes used as percent)

Chapter 1

Introduction

1.1 Introduction

Kerala's development experience has always received attention at the national and international levels. In early economic literature, Kerala is perceived as a state where comparatively lower levels of income (NSDP) coexisted with high levels of human development (United Nations 1975). However, more recent studies have illustrated an altogether different story. Though Kerala experienced faster economic growth in the post-reform period, the state has also been experiencing widening interpersonal inequality during this period.

Sen and Himanshu (2005) in a national level study using Household consumption expenditure data from the 50th (1993-94) and 55th (1999-2000) rounds of National Sample Survey (NSS) showed that Kerala was one of the six states whose inequality increased in 1993-2000. Subrahmanian and Prasad (2008) used the Household consumption expenditure data from different rounds of NSS to analyse the trends in inequality in Kerala. Analysis of consumption expenditure by Subrahmanian and Prasad show that the 'share of the 1st decile (poorest households) in total consumption expenditure of households marginally declined from 2.81 per cent in 1993-94 to 2.41 in 2004-05, whereas that of last decile (richest) increased from 29.90 per cent to 34.31 per cent in rural Kerala. The corresponding figures for urban Kerala were 3.11, 2.15 and 24.05, 31.37 respectively. An interstate comparison of the 2004-05 Gini coefficient revealed that Kerala had the highest score.

Subrahmanian and Prasad (2008) attributed Kerala's increasing inequalities to "excessive" liberalisation and globalisation policies and lack of proper policies on tax and social security. The authors argue that the 'quest for higher growth rate through neo-liberal policy regime has resulted in the rising inequality both at the national level as well as in Kerala' (pg 18 paragraph.3). Other studies attribute inequalities in Kerala to other reasons. Mishra and Parikh (1992) discussed the high levels of inequality between the urban and rural sectors in Kerala. The role of caste in Kerala's inequality is emphasised by Deshpande (2002). Problems in tax policy and development expenditure (Singh, Bhandari, Chen and Khare 2002, Pal and Ghosh 2007), the differential effect of globalisation, economic reforms and neoliberal policies among different occupational groups and (Jha, Gaiha and Sharma 2007) are reasons suggested by other authors.

Yet one of the most potent factors of inequality has been completely kept out of analysis. This relates to international migration¹ and international remittances. Remittances sent by international migrants were as much as a third of (31 per cent) of Kerala's Net State Domestic Product (Zachariah and Rajan 2010, 2012). Over the past one decade remittances coming to Kerala increased by 254% (Zachariah and Rajan 2010), but the proportion of households with an emigrant or the proportion of households that received remittances from abroad is stagnant at about 17 per cent since 1998 (Zachariah and Rajan 2010,2012). This implies that the vast majority of Kerala households, over 80 per cent, who are still not direct participants of this great phenomenon that is transforming Kerala's economy and society, are excluded from the benefits of migration. Given the relative earnings differentials between international migrants and non-migrants, can we attribute the rise of inequality in Kerala's economy to international migration? Is it that while the base of migration has remained stagnant, the returns to migration has vastly expanded, thus leading to rising inequality in Kerala? Given this background, it is important to explore the relationship between international migration and inequality in the Kerala context.

1.2. Review of Literature

1.2.1 Migration studies on Kerala

Migration from Kerala to the other states in India and to countries outside India is a relatively recent development, having peaked during 1940's. Till about the 1940s, Kerala had remained a non-migrating population. After World War II and with the Indian Independence in 1947, migration became a way of life to many of the state's educated youth. At first, migration was almost entirely confined to within India, but in more recent times, migration to countries outside India has grown rapidly. Present emigration has become all-pervasive in the economic and social life in the State and has outpaced migration within India (Zachariah,Rajan and Kannan 2002). Remittances worth Rs 40,000 to 50,000 crores are sent to Kerala by about four to five million of the state's migrants'. Kerala, witnesses more migration to countries outside India (International migration) than to the other states of India or other parts of Kerala (Internal migration).Zachariah, Mathew and Rajan (1999) have identified some reasons for the high migration from Kerala. According to them, Kerala experienced a population expansion and educational expansion. But due to agricultural stagnation

¹ Migration is defined as a move from one migration defining area to another, or a move of some specified minimum distance, that was made during a given migration interval and that involved a change of residence. (United Nations 1970)

and the poor performance of the secondary and the tertiary sectors of the State economy, the state faced a severe unemployment problem. Unemployed people were attracted by employment opportunities available outside Kerala. This has led to huge migration from Kerala.

Studies on migration from Kerala had thrown light on various aspects of migration from Kerala. Migration is the single most dynamic factor in the dreary employment landscape of the socially well-developed Indian state of Kerala (Zachariah, Rajan and Kannan 2002). Remittances (money value of the total sent by migrants) constitute almost one-third (31 per cent) of Kerala's Net State Domestic Product (NSDP) (Zachariah and Rajan 2010, 2012). The numbers of unemployed persons and unemployment rates have declined as a result of migration. In recent times, migration has contributed more to poverty alleviation in Kerala than any other factor including agrarian reforms, social welfare legislations, etc. (Zachariah, Rajan and Kannan 2002). This is not to underplay the role of state interventions in reducing the incidence of poverty. Besides reducing poverty, migration contributed to considerable improvement in the standard of living in Kerala especially for housing, housing amenities, possession of consumer durables and educational attainment of individuals. Migration has had an important role in sustaining the Kerala experience of development. (Zachariah, Rajan and Kannan 2002).

Studies in migration always have relevance in the socioeconomic context of Kerala. Earlier studies on Kerala migration were mostly localised studies. Yet, they give important information on different aspects of migration from Kerala. Kurien (1978) analysed the patterns of emigration from Kerala to other countries. He found that the patterns of emigration are influenced by differences in the economic background of the emigrants and their educational levels. These factors determine the direction of emigration (the countries of destination) and the nature of jobs emigrants secure in the host countries. Bindu (1992) analysed the educational characteristics of migrants. She concluded that all migrants are not well educated, but that awareness about migration opportunities has prompted both migrant and non-migrant households to invest in their children's education. However, migrants, especially educated migrants (occupying better jobs), are more successful in that aim. Balagopal (1996) analysed the spatial patterns of intra-state migration in Kerala. She also analysed the characteristics of intra-state migrants in Kerala with respect to age, sex, education, marital status and occupational specialisation. Later Joseph (2006) presented a historical study on Kerala's migration. He analysed the trends in Kerala's migration saga right from 1920's to early 1990's. His study was mainly focused on the direction of migration and the socioeconomic and demographic aspects of migration.

As mentioned above, most of the aforesaid studies are localised studies based on relatively small samples. Systematic studies covering entire Kerala began to come out mainly after the Centre For

Development Studies started its migration monitoring studies (MMS). These studies with 10000 plus sample size brought out trends in number of migrants, the origin and destination of migrants, educational characteristics of migrants, magnitude of remittances, demographic and socioeconomic aspects of migration, district-wise distribution of migrants from Kerala, causes of migration, costs and financing of migration, demographic and socioeconomic consequences of migration, differences in migration patterns by religion, caste, etc. (Zachariah Mathew and Rajan (1999,2000), Zachariah and Rajan (2003, 2009a,2009b,)). These studies also covered employment, wages and working conditions of the Kerala emigrants (Zachariah,Prakash and Rajan 2002), rehabilitation problems, and the development potential of return emigrants (Zachariah, Nair and Rajan 2003). The role of remittances sent by the emigrants from Kerala in Kerala's socioeconomic development is widely accepted. Studies have explored various dimensions of remittances to Kerala including geographical distribution of remittances within Kerala, ways in which remittances are used, role of remittances on consumerism in Kerala (Zachariah and Rajan 2009a), and the macroeconomic impact of remittances (Kannan and Hari (2002), Zachariah and Rajan 2007, 2010), etc.

Despite having a fairly rich array of studies on migration and a few studies on inequality, the link between migration and inequality has not been explored in the literature. This is an important dimension as is demonstrated in the next section on the theoretical context and empirical literature in other parts of the world, and points to the significance of this study.

1.3. Theoretical Context:

1.3.1. Understanding Inequality:

Equity and equality are terms which are sometimes used interchangeably. But economists tend to view the terms equality and equity as definitionally distinct (the latter term being reserved for the realm of welfare economics and public finance). Equity is the concept of distributive justice used in welfare economics. Equity is a general concept that has alternative meanings. As a general concept, it refers to the belief that the distribution of economic welfare matters and that increasing the equality of distribution is a laudable objective. The degree to which equity should be pursued by a policy maker depends on the rate at which efficiency has to be sacrificed to achieve equity, and on social preferences as summarized in the welfare function. One formalisation of equity is the concept of horizontal equity – those who are equal should be treated equally. For e.g., when applied to taxation, horizontal equity implies that consumer of equal ability should pay the same amount of tax. A second formalisation is vertical equity – welfare should be transferred from those with high

ability (those who have opportunities to earn higher income) to those with lower ability, for example, high ability consumers should pay more tax. (Wheeler 2006)

Now coming to economic inequality, it is defined differently by different authors. The term inequality is related to distribution. Inequality is the difference in the distribution of economic stocks or flows among economic agents. In other words, if a particular income or wealth distribution has different rather than equal shares for members of a population then the distribution is unequal. Economic inequality is the fundamental disparity that permits one individual certain material choices while denying other individual those very same choices. (Black 2003)

Economic inequalities can occur due to several reasons (1) Difference in physical attributes, for example, natural abilities are not equally distributed (2) Difference in personal preferences, for example, the relative valuation of leisure and work effort differs across individuals. So individuals work and earn differently. But the general case is that people prefer to work more, if working more is inevitable for higher earning. (3) Social processes or conditions also determine the pressure to work or not to work and often determines the differences in physical attributes. (4) Public policies regarding tax, labour, education, and other policies affect the distribution of resources. In developed countries, inequality arises from wage differentials, regional distributions of economic activity and accumulation of income earning assets. Inequality is more severe in less-developed countries because unemployment is much greater, a lot of labour is immobile, and often, a few families have a disproportionately higher share of wealth. (Amiel and Cowell 1998)

Inequality is a broader concept than poverty as it is defined over the entire population, and not just for the portion of the population below a certain poverty line. The concept of inequality is applicable for distributions of expenditure, income, land, assets, tax payments, and many other continuous and cardinal variables. (Haughton and Khandker 2009)

1.3.2 . *The relation between international migration and inequality*

A number of studies addressed the issue of how migration and remittances affect inequalities in the place of origin of migrants in national and international settings. The literature on the effects of migration on various measures of inequality in sending areas of poor countries dates back to Lipton (1977), who argued that remittances and return migration tended to increase interpersonal and inter-household inequality within and between villages. However, later studies fail to arrive a consensus on the effect of migration and remittances on inequality.

Some studies argue that inequality increased due to migration (Stark, Taylor and Yitzhaki (1986), Portes and Rumbaut (1990), Rodriguez (1998), Barham and Boucher (1998), Tullao, Cortez and See (2007), Zosa and Orbeta Jr (2009)).

Pernia (2006, 2008) acknowledge the benefits of migration and remittances, and yet opine that they are likely to contribute to the worsening of income inequality. He showed that (a) More migrant workers come from the more developed regions (b) Remittances contribute to overall regional development, but the benefits are bigger for households in the upper income groups and remittances increase the average income of richer households more than poorer households.

However, some other studies have the opposite view (Adams (1989), Massey, Goldring, and Durand (1994), Pernia (2006, 2008), Ahlburg (1996), King (1997)).

Mixed evidence is provided by Stark, Taylor and Yitzhaki (1988) who found that international remittances reduced inequality in one village in Mexico, but increased inequality in another village. Other authors who join them in this opinion are Lipton (1980), Stahl (1982), Taylor (1992), Adams (1989, 1992), Barham and Boucher (1998) and McKenzie and Rapoport (2006), Gonzalez-Knig and Wodon (2002). According to these authors, results differ by method applied (different inequality indices the give positive and negative relationship between migration and inequality) and type of migration (internal migration reduces inequality whereas international migration increases inequality).

In studies on the relationship between migration and poverty or inequality for the same country, different approaches seem to lead to contradictory results. When Brown and Jimenez (2007) took remittances as an exogenous source of income, they find that they reduced income inequality in Tonga and Fiji, whereas they seem to have no significant effect or to raise income inequality when the authors adopt a counterfactual analysis, as in Barham and Boucher, 1998.

1.3.3 . *The effects of migration on poverty and inequality*

The channels through which migration affected poverty were not the same as the channels that affected inequality. Adams, Cuecuecha and Page, (2008) and, Wouterse (2008) obtain different results about the effect of remittances on poverty and inequality in Ghana. According to them, international remittances would be more efficient to lower the poverty headcount, the poverty depth and the severity of poverty than internal remittances, but they find that international remittances increase more income inequality in Ghana than internal remittances. This is because households

receiving internal remittances and those receiving international remittances are not located in the same place in the income distribution. Internal remittances are received by comparatively poorer households. On the other hand, international migration, which involves high costs and risks, is mainly accessible to already wealthy households. So there is a negative correlation between internal migration and inequality and a positive correlation between international migration and inequality. However, these effects vary across regions, with both types of remittances having an equalizing effect on incomes in the highest migration region. This argument is also advocated by Yang and Martinez (2005); and Sawada and Estudillo (2006). Some authors argue that international remittances have a larger effect on alleviating poverty as the share of households with access to remittances increases. (Taylor, Mora, Adams and Feldman 2005). However, they also agree upon the negative correlation between internal migration and inequality and the positive correlation between international migration and inequality.

Adams (1992), in a study of four Pakistani villages finds that effect of migration on inequality is neutral. Similarly, Yang and Martinez (2005), did not find significant impact of remittances, indicated by exchange rate shocks, on measures of inequality such as the Gini coefficient and 90-10 and 75-25 percentile ratios.

A closely related issue is the relationship between migration, remittances and poverty. Adams (1986,2004) computed different measures of poverty for households that received remittances from international and/or internal migrants, and compared them with those of households that did not receive remittance income. He found that both internal and international remittances reduced poverty.

Adams and Page (2003) performed a cross-country analysis of international migration and poverty. They found that a 10 per cent increase in international migration (the share of a country's population living abroad) was associated with a 1.9 per cent decrease in the share of people living in poverty. Cordova (2004) found that a higher prevalence of remittances (fraction of households receiving remittances) was correlated with lower poverty. Authors like Yang and Martinez (2005), Sawada and Estudillo (2006), Latapi and Janssen (2006), and Acosta, Fajnzylber and Lopez (2007) also found that remittances lower poverty levels. However, Burgess and Haksar (2005) argued that the long-term economic effects of remittances are ambiguous.

McKenzie and Rapoport (2006) opine that the possible impacts of migration on poverty are bracketed by two extremes, which we might call the "optimistic" and "pessimistic" scenarios. The optimistic scenario is that migration reduces poverty in source areas by shifting population from the

low income rural sector to the relatively high income urban (or foreign) economy. Remittances by migrants contribute to incomes of households in migrant source areas. If remittances are significant and if some migrants originate from poor households, remittances may reduce rural poverty. The pessimistic view is that poor households face liquidity, risk, and perhaps other constraints that limit their access to migrant labour markets. This is particularly likely to be the case for international migration, which usually entails high transportation and entry costs. Households and individuals participating in migration benefit. However, these beneficiaries of migration may not include the rural poor. If migration is costly and risky, at least initially, migrants may come from the middle or upper income segments of the source area, and not from the poorest households. The poor will not benefit unless obstacles to their participation in migration weaken over time. The true impact of migration on poverty is likely to be found not at one extreme or another, but somewhere in between and varying over time. This tendency is very much similar to what is observed in the case of migration and inequality.

Initially, when few households have access to migrant labour markets, remittances are likely to flow primarily to middle and upper income families. If this is the case, changes in remittances will have little effect on poverty. However, if access to migration eventually becomes diffused downward through the income distribution, poor households may gain access to remittance income and remittances would reduce poverty. Poverty would then be more sensitive to changes in remittances in regions that have a larger share of households with migrants.

According to Giannetti, Federici and Raitano (2009), the impact of remittances on inequality and poverty indexes depends mainly on three factors: the share of households receiving transfers, the average amounts for recipient, and the target efficiency (i.e., the share of remittances and welfare benefits going to less advantaged people).

1.3.4 *Migrants Characteristics and Inequality*

Theoretically, whether migration and remittances contribute to increasing or decreasing inequality depends on who is migrating and remitting. If migrants come from poorer segments of the population, their remittances are more likely to contribute to a reduction in inequality because, on average, poorer families are going to receive the extra income from remittances. On the other hand, if migrants tend to be from already richer households, remittances are more likely to increase inequality since comparatively richer families will benefit from the extra income. This point is

emphasised by Jones (1998) and Stark et al. (1986). Thus migration as an institution helps to improve equity if the poor have access to it; if so, then a significant expansion of migration flows is likely to reduce inequalities (Black, Natali and Skinner, 2005).

Rodriguez (1998) argued that if migration is a process of information acquisition which is not household specific then the initial negative effects on income distribution would dissipate as the opportunities of migration become more evenly distributed. Some evidence of this effect is provided in Ducanes and Abella (2007) who found, using a panel data set between 1997 and 1998, that a significant part of new migrants come from lower income groups. Further elaboration on this point will provide a theoretical explanation for conflicting conclusions on the role of migration in inequality.

1.3.5 . *Stages of Migration and Inequality*

A theoretical explanation for conflicting conclusions on the role of migration in inequality can be found in the literature on this topic itself. Migration, like the adoption of a new production technology, initially entails high costs and risks. The costs and risks are likely to be especially high in the case of international migration. The effect of remittances on inequalities over time depends on how migration facilitating information and contacts become diffused. When information is costly and scarce, migration is subject to a significant degree of uncertainty. Given this fact, pioneer migrants tend to come from households at the upper, middle or top of the sending area's income distribution since they are the ones best equipped to make a high risk, high-return 'investment' and the income they send home in the form of remittances is therefore likely to widen income inequalities in migrant source areas. The role of remittances in the overall household income distribution at this initial stage depends upon the magnitude of remittances in relation to income from other sources, as well as upon the position (in terms of total income) of remittance-receiving households in the income distribution of the place of origin (Portes and Rumbaut, 1990; Lipton, 1980, Stark, Taylor and Yitzhaki 1986, Massey, Goldring, and Durand (1994) etc, Koechlin and Leon (2006))

Stark et al. (1986) also find that a village's migration history, as well as how widespread migration opportunities are, also determines how remittances affect inequality. They find that in a Mexican village with little migration to the United States, remittances are inequality increasing while the opposite is true for a village where migration to the United States has a long history.

This initially unequalising effect of remittances is dampened or reversed over time as access to migrant labour markets becomes diffused across sending area households through the growth and elaboration of migrant networks. Villagers who have successfully migrated provide valuable information which improves the understanding about migration and its benefits for other households. Early migrants may also provide direct assistance to new ones. As mentioned before, migration-related information is not household-specific at this stage, that is, there is a tendency for them to spread across household units. So households at the lower end of the income distribution are likely to experience the effects of migration and remittances. This would erode and possibly reverse any initially unfavourable effect of remittances on income inequality. Thus the impact of migrant remittances on the income/wealth distribution depends critically on a village's migration history and on the degree to which migration opportunities are diffused across village households. It also depends on the returns to human capital embodied in remittances, and the distribution of potentially remittance enhancing skills and education, development of the financial sector (helps to overcome cost constraints in migration especially international migration), etc. For e.g., Stark, Taylor and Yitzhaki (1986) found that migrant remittances had an unequalising effect on income distribution in a Mexican village that had recently begun to send migrants to the United States, but an equalising effect on another village that had a long history of participating in Mexico-to-U.S. migration. (Also see Portes and Rumbaut, 1990; Lipton, 1980, Massey, Goldring, and Durand (1994) and Koechlin and Leon (2006))

Jones (1998) further theorises these argument. He argues that the effect of remittances on the distribution of income depends on the “stage” of migration in the sending community. He distinguishes three stages of migration: the “innovative stage”, when only the most adventurous and better-off migrate, in which case remittances tend to be inequality increasing; the “early adopter stage”, when people from the lower segments of the income distribution also start to migrate and, therefore, remittances become comparatively more inequality decreasing; and finally, the “later adopter stage”, when due to the accumulation over time of remittances in families with migrants, these families are farther apart from the families without migrants and therefore remittances may once again become inequality increasing in nature.

An attempt to model the decision to migrate has been made by Gonzalezknig and Wodon (2002). According to the model, since the cost of migration is high enough, the poorest do not migrate. The rich do not find it optimal to migrate because there are no positive gains to migration for them. Similarly, young people have a greater tendency to migrate compared to the older generation. All young workers with income in between rich and poor classes (hence, “middle

class”) migrate.

The issue of very high costs especially for international migration is also emphasised by Lipton (1980), Stahl (1982) and Stark, Taylor and Yitzhaki (1986). However, Ebeke and Goff (2009) argue that regardless of the costs of migration, poor people would tend to migrate if the expected returns are high enough to incite them to migrate and also to defray migration costs (the basic idea put forth by Ebeke and Goff is similar to proposition of the Harris Todaro model). In that case, remittances have a smoothing effect on inequality in the home country.

According to Lipton (1977), inequalities within sending areas are also crucial in generating migration - more unequal villages send more migrants. Thus inequality is not only a major cause of migration, but its ‘after-effects’ - remittances and return migration - increase interpersonal and inter-household inequality.

Mc Kenzie and Rapoport (2004) argue that a priori, the effect of remittances on income inequality cannot be determined because it depends upon the initial distribution level of income in the recipient countries. Gonzales-König and Wodon (2005) show that the effect of remittances on the Gini coefficient depends on the average income of the regions of origin.

All ideas in the above-mentioned literature may not be completely applicable in the case of Kerala. However it is worth pondering on some issues. Internal migration from Kerala is showing a declining trend. (Zachariah and Rajan 2012). Literature says that international remittances have a positive inequality impact. But at the same time, the high cost of international migration is not encouraging internal migration at the expense of international migration. Moreover; international migration from Kerala is of comparatively recent origin. So has Kerala already reached a stage where poor people can actively participate in the migration process? Do the opportunities that migration offers for helping people move to a higher standard of living denied to non-migrant households? If so what is the impact of migration in Kerala’s inequality scenario? These research issues form the objectives of this study.

1.3.6 . *Methods and tools used in migration-inequality studies: A Review*

Tullao, Cortez and See (2007) did simple comparisons of the level of consumption between households receiving and not receiving remittances. They also estimated Engle functions relating expenditures shares and total expenditures plus controls for other household characteristics for

remittance-receiving and remittance non-receiving households separately. The simple comparisons show higher consumption expenditure for remittance-receiving households. They also point to higher allocation for housing, education, health care and recreation services. The proportion of household with amenities such as a TV, refrigerator, and washing machine were, as expected, higher among households receiving remittances. The expenditure elasticities generated from the Engle function estimates validated the results from the simple comparisons, i.e., higher expenditure elasticities for housing, education, health care, durables, and transport and communications among those with income from remittances.

Massey, Goldring, and Durand (1994) observed that migrants came from already rich families. Zosa and Orbeta Jr (2009) used the percentage of households with remittances in different income deciles to understand the link between migration and inequality. He argued that higher income deciles have more households receiving remittances. Thus both authors conclude that remittances have a positive impact on inequality.

Some studies use data on income or consumption expenditure and use regression to estimate the impact of remittances on income. Normally, authors try to control for other factors that affect inequality by including, as much as possible, variables other than migration (which affect inequality) in the regression equation. Portes (2009) finds that impact of remittances on income is strongest in low-income countries and the effect of remittances is either positive or negative depending on the level of income. The poor are the greater beneficiaries from migrant remittances. If, following migration, the income of poor households grows to a level that is higher than that of rich households; this means that migration reduces inequality. Portes substantiates this point using elasticity of decile income with respect to remittances. However, Portes and Rumbaut (1990) used the same method to reach the opposite conclusion.

Authors like Ahlburg (1996), King (1997), McKenzie and Rapoport (2006), Ebeke and Goff (2009) used the Ordinary Least Squares (OLS) technique to estimate the impact of remittances on Gini coefficients.

Another approach commonly seen in literature on the migration-inequality link is known as counterfactual analysis. This approach compares the current inequality scenario with a situation that simulates the state of the economy if the current migrants were living in the country. This is the methodology that has been adopted since Adams (1989, 1992), who estimated a household income function for non-migrant households based on migrant households under a no-migration scenario. By so doing, however, he assumes that migrants are randomly selected from the population,

whereas other studies show a self-selection mechanism according to individual (education, motivation), household (income, relationships, occupation) and community (geographic location, ethnic networks) characteristics. Rodriguez (1998) went a bit further: he assumed that all differences between households with and without migrants are observable or can be reduced to a constant term, and simply estimated coefficients for the households' earnings equation, including a dummy for the presence of migrants, and applied them to the no-migration scenario. Once a counterfactual has been computed, all that needs to be done is to compare poverty indices or inequality measures between the current scenario and the counterfactual one. Such estimates usually find that remittances decrease poverty, mainly through increased mean income, while measures on inequality are inconclusive, some pointing in one direction or another, depending on the country under consideration. Others who adopt this method are Rodriguez (1998) and Barham and Boucher (1998))

Most of these counterfactual-based studies also draw conclusions about role of migration in inequality by applying the same logic as applied by regression-based studies. Migration and remittances have a clear equalising effect if the lower quintile have a higher gain in average consumption through remittances and the reverse happens for those households located in the upper part of the income distribution. This result is confirmed by the computation of the Gini coefficient by most studies. If the no-migration counterfactual produces Gini coefficients that are higher than those for the observed income distribution with migration and remittances, then it may be concluded that migration has resulted in increasing inequality.

Another stream of literature tried to estimate the effect of small changes in remittances on inequality, holding income from all other sources constant. To explore the impact of remittances on inequality, it is first necessary to select an inequality index. Most authors use Gini decomposition (Stark, Taylor and Yitzhaki, (1986), Taylor 1992, Gonzalezknig and Wodon (2002)). Among these authors, the work done by Stark, Taylor and Yitzhaki (1986) is considered a pioneering effort. These authors used the method of Gini decomposition to estimate the effect that a 1 per cent change in income from source 'k' will have on total income inequality.

Some authors like Rodriguez (1998) explored the topic using both counterfactuals (migration and no migration regimes) and decomposition analysis. Rodriguez did a regression analysis to estimate household income as a function of the characteristics of household (such as age, experience proxied by age squared, education, gender, and marital status), presence of adults, and presence of migrant (dummy). The income obtained from both migration and no-migration regimes was used to calculate

the Theil and Gini indices so that inequality in migration and no-migration regimes could be compared. In the Decomposition analysis, Rodriguez examined changes in average total household income and inequality, assuming a small increase in international migrant remittances.

Almost all of the above-mentioned studies used income as the measuring rod in their analysis. Broadly speaking, we can say that some sort of regression technique was used in most of the studies for analysis including those studies that used Gini decomposition techniques. One potential issue is that most surveys only collect information on the amount of household income coming from foreign transfers. This implies making strong assumptions on the number of migrants from a given household and their characteristics, and could therefore weaken the results. The usual option is to assume that every household receiving migrants' remittances has one migrant abroad.

1.4. Objectives of the study

To understand the role of migration in Kerala's economic inequality by comparing the living standards of migrant and non-migrant households.

To analyse the economic mobility of migrants vis-à-vis that of the non-migrants and the effect on the observed trends in inequality

1.5 Data and Method of analysis

One of the major limitations a study of this sort is the lack of a reliable database that gives information on migration, especially international migration and remittances. Fortunately, in the case of Kerala; a database generated from migration monitoring studies (MMS) conducted by Centre for Development Studies, Thiruvananthapuram is available. This data base has extensive information on socio-economic, demographic, geographical, and many other aspects of migration.

CDS Migration Monitoring Studies – 1998-2011: The Centre for Development Studies (CDS) Thiruvananthapuram, Kerala conducts periodic surveys to monitor the current status of emigration from and return emigration to the state of Kerala. So far five such surveys have been carried out, the first in 1998, the next in 2003, the third in 2007, and the fourth in 2008, and the latest in 2011. These surveys constitute one of the few reliable sources of information related to emigration

from Kerala.

There are 5 rounds of MMS from which I chose the 1998 and 2008 rounds due to following reasons. First, the choice of 1998 and 2008 rounds allows an understanding of the role played by migration in Kerala's 'inequality scenario' over the past decade. Secondly, a panel data set of the households that appeared in both rounds is available only for the 1998-2008 periods.

To understand the nature and trends in inequality among the migrants and non-migrants, I constructed an index of standard of living. Using this index, I compared migrants and non-migrants and analysed inequality between these two groups. I used decomposition techniques to isolate () the remittance effect on the standard of living. Further, using a panel data set for the two periods, the relative position of these two groups are analysed to check for economic mobility. Also, a panel data regression is conducted to test the effect of migration on standard of living.

1.6 Chapterisation

Chapter 2 – Describes the relevant characteristics of KMS dataset. The information relevant to my research question is available in KMS. Given the characteristics of KMS data, this chapter identifies, justifies and describes the methodology used to approach the research question.

Chapter 3, adopting the methods described in Chapter 2, this chapter presents a static analysis of role of migration in Kerala's inequality scenario.

Chapter 4 uses the unique panel data set of those households that appeared in both 1998 and 2008 rounds of KMS to understand the dynamics of the migration-inequality relationship in Kerala.

Chapter 5 – Summary and Conclusions of the study.

Chapter2

Towards Building an Index of Standard of Living: Concepts and Method

Remittances sent by people migrating from Kerala constitute as much as a third of Kerala's Net State domestic product (NSDP). However these remittances continue to remain confined to about 17 per cent of households in Kerala. Our aim is to understand if these highly skewed distribution of remittances have any role in Kerala's inequality by creating economic and social disparities between households with and without migrants. For that, we need to first understand the concept of 'standard of living'. The next issue is its measurement. What are the different ways in which standard of living can be measured? Which of this ways of measurement is more apt to data base generated by CDS MMS? This particular question can only be answered after having an understanding of database generated by CDS MMS (also referred to as the Kerala migration survey or KMS for short). To understand and ascertain the role of migration in inequality; we need a composite index that summarizes the standard of living of households. So how can we build such an asset? All this questions are dealt with in this chapter.

2.1 .Standard of living – concepts and measurement.

Standard of Living can be defined as the quality and quantity of goods and services available to people (Curio 2003). It can also be regarded as the per capita quantum of human satisfactions or enjoyments (Bennett 1937). The terms Standard of Living /Quality of Life/well being are often used interchangeably in literature. At best, these different definitions can highlight the different aspect of the concept of standard of living. But some sort of measuring rod is needed to analyze the standard of living of individuals/households in a systematic manner.

The literature on Standard of living provides two broad approaches towards understanding Standard Of Living (SOL hereafter) /Quality of Life/well being, namely, the philosophical approach and the scientific approach.

2.1.1. Approaches towards understanding Standard Of Living

2.1.1.1. Philosophical approaches to quality of life

There are three major philosophical approaches to determining the quality of life (Brock, 1993). The first approach describes the characteristics of good life that are dictated by normative ideals based on religious, philosophical, or other systems. The second approach defines 'good life' based on the satisfaction of preferences. Within the constraints of the resources they possess, the assumption is that people will select those things that will most enhance their quality of life. The third definition of quality of life is in terms of the experience of individuals. If a person experiences her life as good and desirable, it is assumed to be so. In this approach, factors such as feelings of joy, pleasure, contentment, and life satisfaction are paramount.

2.1.1.2. Scientific approaches to quality of life

During the last few decades, two new scientific approaches to measuring quality of life have been initiated – “objective” or social indicators and “subjective” well-being (SWB).

2.1.1.2a. Social indicators

Social indicators are societal measures that reflect people’s objective circumstances in a given cultural or geographic unit (Wilkins 1980). The hallmark of social indicators is that they are based on objective, quantitative statistics rather than on individuals’ subjective perceptions of their social environment. According to Haq (2009), ‘Under the conceptual umbrella of social indicators, variables representing a wide range of societal domains have been measured and studied’ (page 3). For instance, variables such as infant mortality, doctors’ per capita, and longevity are assessed in the health domain, and homicide rates, police per capita, and rates of rape are assessed to detect crime-related quality of life (Diener et al 1999). Indices derived from areas such as ecology, human rights, welfare, and education are also considered as social indicators (Land 1999). An objection to social indicators is that wealth accounts for so much variance in them. Diener (1995) reports correlations between the wealth of nations and social indicators that are often so high that one might think whether we should bother with the indicators when wealth may account for much of the quality of life of nations. (Diener and Suh 1997)

According to Land (1999), there are three types of social indicators: normative welfare indicators, life satisfaction and/or happiness indicators, and descriptive indicators.

1. Normative welfare indicators (criterion indicators/normative welfare indicators/policy indicators): It is a direct measure of welfare and a change in the “right” direction means everything else being equal, people are better off. In the language of policy analysis, this type of social indicator is a target or outcome variable which public policy tries to influence, for e.g., percentage of Below Poverty Line population (USDHEW, 1969: 97)

2. Life satisfaction indicators (subjective well-being or happiness indicators): They attempt to measure psychological satisfaction, happiness, and life fulfillment through survey research instruments that try to understand the subjective reality in which people live.

3. Descriptive social indicators: They try to quantify and measure different aspects of society.

2.1.1.2b. Subjective well-being (SWB).

The basic premise of SWB research is that in order to understand the well-being of an individual, it is important to directly measure the individual’s reactions to her or his whole life, as well as to specific domains of life .Subjective well-being consists of three interrelated components: life satisfaction, pleasant affect, and unpleasant affect. Affect refers to pleasant and unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life. Both affect and reported satisfaction judgments represent people’s evaluations of their lives and circumstances. SWB includes both positive and negative affective experiences of the individual. High SWB definitely includes the presence of a positive affect, and satisfaction with life and domains of life such as work and leisure. Even if an individual or a society is high in on one of the SWB factors it can still be low on the others. (Diener, 1984; Myers and Diener, 1995)

Social indicators and subjective well-being measures are not as clearly distinct as they first appear. The “objective” or external social indicators are replete with subjective decisions – from decisions of those who compile the data (police, doctors, etc.) to the determination by the researcher to include or exclude specific variables. The objective indicators that researchers collect also inevitably reflect the subjective concerns of the society.

2.1.2. Measuring Socio Economic Status: The conventional measures based on Income, Consumption and Expenditure

Needless to say, it is the Socio Economic Status of an individual or a group of individuals that is reflected in the aforesaid indicators.

Theoretically, socioeconomic status comprises two broad definitions: socioeconomic class and position (Krieger et al. 1997). The former refers to social groups, arising from interdependent economic, social and legal relationships among a group of people living in the economy such as employers, employees, self-employed and unemployed. Here, the relationship between different groups of people is mainly based on their resource endowments. These endowments include either resource-based or prestige-based measures (For e.g., the caste of an individual in India), stand for the diverse components of economic and social well-being that differentiate persons of different social classes (Morris, Carletto et al. 2000). In general, a decision on which socioeconomic parameters are appropriate for monitoring and understanding standard of living depends on the objectives of the investigation and data availability. The term ‘socio economic position’ is better than the more commonly used phrase ‘socio economic status’ because the latter blurs distinctions between two different aspects of socio economic positions, actual resources and prestige related characteristics (Krieger et al. 1997).

Methods for assessing household socio economic position can be categorized into two major groups: money metric measures and alternative approaches. The first category is traditionally used by economists because it is easy to measure and widely well understood by the public.

Money metric measures (sometimes referred to as “direct” measures) rely on the assumption that a person’s material standard of living largely determines their well-being. Thus, the poor are defined as those who engage in a material standard of living measured by income and expenditure below a certain level (Falkingham and Namzie 2001). However, practical problems associated with the accuracy in quantifying income or expenditure, especially in developing countries have arisen and have led to a search for non-monetary proxies (“proxy” measure) of household welfare. Thus, an alternative approach using ‘non-monetary measures’ has been

developed due to the need for assessing household welfare in a more comprehensive and broader context. This category comprises various approaches such as the household asset index, the occupational status score (OSS) and Household Prestige (HHP) score. (Krieger et al. 1997; Filmer and Pritchett 1998).

The most popular direct measures of living standards are income, consumption and expenditure. It is necessary to look at the explanations for each of these measures.

2.1.2.1. *Income measure* : Income refers to the earnings from productive activities and current transfers. Income is also defined as the amount of money received during a period of time in exchange for labor or services, from the sale of goods or property, or as a profit from financial investments. It can also be seen as claims on goods and services by individuals or households. Broadly speaking, income is composed of earnings from productive activities and transfers. It is customary to distinguish four main components in the measurement of income: (i) wage income from labor services; (ii) rental income from the supply of land, capital, or other assets; (iii) self-employment income; and (iv) current transfers from government or non government agencies or other households. (Montgomery, Gragnolati, Burke and Paredes 1999)

There are, however, some issues involved in using income to understand living standard .The first relates to the view that real income should be measured in utility terms, i.e., with reference to the true cost of living. This view can be extended to consider aspects of life other than material consumption that people care about. Among the most obvious of these are leisure and life expectancy. The basic idea is that if you earn the same income as another person but work fewer hours, or, if you earn the same income but have a lower risk of dying, you are better off. (Crafts 1997).Another non-material aspect of life is happiness. Over long periods of time, self-assessment of levels of happiness in responses to opinion polls have not improved even though real incomes have risen substantially (Blanch flower and Oswald 2004). The solution to this paradox is probably that suggested by Easterlin (2001) that as incomes increase over time the impact on happiness is offset by an increase in material aspirations. Another issue in literature is about what should be included in income measures (McKay 2000).

If data on income is not easily available then consumption is used as a proxy for income (for e.g., as in the database of National Sample Survey Organization (NSSO) in India). Income and consumption are two different concepts and are not just two different ways of measuring the same concept. Measured income often differs from measured consumption. It is possible to save from income and to finance consumption from borrowing. Moreover, income surveys often exclude household production. There is a long-standing and vigorous debate about which is the better measure of standards of living. For developing countries, a strong case can be made for preferring consumption, based on both conceptual and practical considerations. Income is received only in intervals, whereas consumption is continuous in nature. Individuals and households (Hhs hereafter) will try to maintain their consumption even if income fell by borrowing or reducing their past saving. This is known 'smoothing' of consumption over time. Consumption remains unchanged with income shocks. This makes consumption a better measure of current status of living (Deaton and Grosh 2000)

If a year is chosen as the standard for assessing living standards, but the survey in question can only hope to measure flows over a shorter period, consumption data will yield a more accurate estimate of living standards than income data. Most people do not receive income every day, and many do not receive income every season or at least not an equal amount every season. In such situations, consumption over a week, two weeks, or a month is likely to be a reasonable indicator of living standards over a year or over a few years. But if analysts are interested in measuring averages, income variation will not matter much if the survey itself is spread over a year, since some people's zero incomes will balance out others' high seasonal incomes. (ibid).

Research has shown that consumption-based economic status indicators have been found to be more reliable than indices that are income based. A major reason for this is the relatively high non-response rate for income-based measures as well as the under- or over-reporting typically found when income is used. Respondents are more reluctant to share information about their income/assets than about their consumption. This problem is more serious if income is taxable. In the case of rich households, the member of household may ask their servants to answer survey questions, and these servants could be more aware about consumption patterns than income. Obtaining data on income from assets is still difficult primarily because asset distribution is

highly unequal. In addition, asset owners, often small in number, are less likely to co-operate. People in the agricultural sector may not fully understand the concept of income, resulting in overstating or understating the same (Deaton 1997, Vanneman, Adams and Dubey 2007)

Many poor households may not be able to recollect the transactions for household and small business activities separately, so the concept of income as the net result of gross receipts minus business expenditures may be difficult for respondents to report. Much agriculture in poor areas is subsistence agriculture and so respondents may know less about both prices and even production quantities. (Vanneman, Adams and Dubey 2007)

In developing countries, households often draw their incomes from multiple sources that can change from year to year and even season to season. To properly measure income for a single year requires attention to the details of primary and secondary employment and the nature of payment for each adult household member. Transfers and income derived from other sources also need to be measured, as also the costs (in family farms or businesses) of generating income. Given the transitory nature of some employment and the uncertainty of net economic return, any one year's income cannot represent the incomes earned over the longer time span. As mentioned above, many households will transfer resources across time periods, and will save and borrow through a variety of mechanisms so that their consumption levels do not change with income. When it is possible to borrow and save without incurring heavy transactions costs, then income would have both transitory and permanent components, with consumption being closely related to the permanent component. (Bhalla 1979 and 1980, Musgrove 1978 and 1979, Paxson 1992 and 1993, Wolpin 1982, and Deaton 1997 etc)

Although there are also random irregularities and seasonal patterns in consumption, they are typically smaller than those in income because consumption is less tied to seasonal and weather-related patterns in agriculture than is income due to the reasons mentioned above. (McKay 2000).

2.1.2.2 ,*Consumption-based measures* :Consumption can be defined as the final use of goods and services, excluding the intermediate use of some goods and services in the production of others. Consumption refers to resources actually consumed. Most socio economic surveys collect data on four main classes of consumption: (i) food items, (ii) nonfood, nondurable items, (iii) consumer durables, and (iv) housing. In general, there are three steps in the construction of a consumption- based living standards measure: (i) construct an aggregate of different components of consumption, (ii) make adjustments for cost of living differences, and (iii) make adjustments for household size and composition.(ibid)

2.1.2.3 .*Expenditure-based measures*: Expenditure can be defined as the money payments or the incurrance of a liability to obtain goods or services. Although many components of consumption are measured by looking at household expenditures, there are important differences between the two concepts. First, expenditure excludes consumption that is not based on market transactions. Given the importance of home production in many developing countries, this can be an important distinction. Second, expenditure refers to the purchase of a particular good or service. However, the good or service may not be immediately consumed.(ibid)

Consumption and consumer expenditure surveys are seen as among the most 'difficult and expensive surveys' to field in the statistical system. In some cases, a substantial fraction of consumption does not come through the market, so imputations have to be made. (McWhinney and Champion 1974).

Problems of recalling income is applicable to consumption as well. (Wooldridge 2002, Deaton 2003, McKenzie, 2005, Moser and Felton 2007). Consumption also faces difficulty in the imputation of rental values and in accounting for the service flow from durables. (Deaton 2003, McKenzie, 2005)

Though there are both theoretical and practical considerations that affect the choice of income or consumption, the balance in favor of one or the other may be different in different circumstances. Often, the choice is determined more by practical as well as personal (For ex: if income can be measured as accurately and as cheaply as possible it will be preferred to consumption) considerations than by theoretical considerations.

Some economists like McWhinney and Champion (1974) prefer income as a measure of living standards because they follow a 'rights' approach. According to this approach, income, together with assets, measures the potential claims on the economy of a person or family. Other economists prefer to use consumption because they consider the level of living a measure of economic input, and consumption data show the level of living by measuring what people acquire. Both can be defended as approximations to utility.

Another consideration about whether to use income (including income from assets) or consumption is the time period over which living standards are to be measured. At one extreme is a lifetime living standard measured either by average consumption over a person's lifetime or by the person's totals lifetime resources; apart from any bequests, these two concepts are the same. The issue here is that some poverty is only temporary (for example, students are poor in the short-term but not over their lifetimes, while the elderly may be poor but have not been poor throughout their lives). So short-term measures of inequality can overstate lifetime inequality. One influential theory of consumption and saving is the 'life-cycle hypothesis,' which asserts that a person's consumption at any age is proportional to his or her lifetime resources. If this is true, measuring consumption is not only useful in its own right but also provides an indication of lifetime resources. However, this hypothesis is controversial. For many people, the promise of resources in the future will do little to pay bills today. (Modigliani 1966).

Properly designed and often cumbersome surveys are needed to measure the implicit value of consumption activities that do not pass through the market. Thus income and consumption/expenditure data are both difficult to collect. In developed countries, in which a large proportion of the population works in the formal sector and in which consumption patterns are very complex, the balance often tips in favor of measuring income rather than consumption. Even so, these surveys often have considerable problems dealing with self-employment, informal economic activities, and widespread reluctance to disclose information on income to survey enumerators. In developing countries, formal employment is less common, many households have multiple and continually changing sources of income, and home production is more widespread. In these contexts, it is generally far easier to measure consumption than income. (Prakongsai 2006)

According to Atkinson (1989) although the best indicator of household welfare is the actual consumption of the individual on food or other goods and services such as health and education, an individual's consumption is difficult to disaggregate. In practice, income and consumption/expenditure data are therefore commonly used to proxy for the level of consumption utilized. A decision to use income or expenditure depends on the concept of well-being used. If the standard of living concept is employed for measuring an individual's well-being, the focus will be on consumption or expenditure data. On the other hand, if the right to a minimum level of resources is the concept used, then income is favored (Atkinson 1989).

Another measure of living standards is the index of real wages. But using this measure needs collecting evidence on money wages and then adjusting it for changes in purchasing power resulting from inflation. But rising real wages do not tell the whole story. The main issues here concern the price index numbers used to deflate the money wage series. (Floud 1998)

However, another group of authors criticize the very idea of using monetary measures, either income, consumption or expenditure, to assess a household's living status and socio economic position in developing countries. One criticism is that using a monetary indicator does not take into account how money is earned and how much time is spent working (Piachaud 1987). Sahn and Stifel (1998,2001) illustrated five problems of using household income or expenditure as a tool for classifying socio-economic positions in the developing world. Firstly, the quality of income and expenditure data is most likely to be poor, particularly in middle and low income countries. Secondly, these data are collected on the basis of recall memory, usually 14 days or one month. Such recall data is prone to measurement errors. Thirdly, prices of goods, nominal interest rates and depreciation rates for semi-durable or durable goods may not be accurately calculated when constructing consumption aggregates. Fourthly, consumer price indices in developing countries are unavailable and unreliable, especially when inflation tends to be high or variable. In addition, regional and seasonal price indices in most developing countries are greatly variable. Finally, although purchasing power parity numbers are widely used for inter-country comparison, these numbers are rough approximations and are susceptible to considerable error. Furthermore, problems of sampling bias, under reporting of income and difficulties of converting household products into money terms are also raised. Practically, very few demographic surveys in

developing countries gather information on household income or consumption expenditure, despite the theoretical importance of these measures. (ibid)

Consequently, researchers have been forced to rely on proxy measures for living standards. Normally used proxies for living standard are access to water and the nature of toilet facilities, indicators of housing quality, and ownership of assets/selected consumer durables. (Lloyd and Gage Brandon 1994; Sastry 1996; Stewart et al. 1991).

2.1.3. Asset Based Measures: An alternative to conventional approaches

The aforesaid non-monetary indicators of household welfare are used to build asset-based indices of Standard of living. Asset-based indices of Standard of living (sometimes referred to as asset indices) have been introduced and developed as an alternative tool for understanding household socio-economic positions (Filmer and Pritchett (1998), Morris et al.(2000), Sahn and Stifel (2001,2003), Bollen et al.(2002), Bicego et al.(2003), Schellenberg et al.(2003), Sahn and Stifel (2003), Sastry (2004), Tarozzi and Mahajan (2005), Ainsworth and Filmer (2006)). The Asset index is often used in the empirical literature on poverty and inequality analysis as a proxy variable for household income.

The use of the asset index to understand standard of living became popular after the pioneering work done by Filmer and Pritchett came out in 1998. As said above, this method employs data of household's assets such as durable and semi-durable goods to describe household welfare instead of using household's income or expenditure data.

Various authors have compared the performance of income, consumption, expenditure and assets to provide an understanding about SOL and establish the superiority of asset-based measures. Let us see their arguments

These authors argue that incomes are often highly variable. Income can be seasonal too. So Taking a snapshot of income at one point in time may therefore produce a less reliable picture.(Moser and Felton 2007). Measuring incomes becomes far more complex when a large proportion of the economically active population is self-employed. Capturing all the sources of income in poor economies can also be especially challenging since households typically engage in a wide variety of economic activities, both market and non-market, to support themselves.

Some of these activities can be seasonal, raising recall problems over a 12-month period.(Vanneman,Adams and Dubey 2007).But Information on the quality of housing and ownership of particular assets is much less seasonal and does not face these same measurement problems.(Deaton 2003,McKenzie, 2005).The possibility of seasonality is important because people, in terms of income or consumption, can be better off in one period than another without any significant or lasting change in their underlying circumstances, particularly the stock of productive assets with them. Some individuals/households move in and out of poverty, and can represent a mix of experiences. For some, it could represent a return to an expected standard of living, after a brief non-poor hiatus afforded by a spell of good luck. For others, it could be a temporary transition caused by bad luck in a later survey period. Finally, for yet others, it could be a structural move caused by the loss of assets (due to illness, natural disaster or theft), or by a deterioration in returns to their assets brought on changes in the broader economy. (Carter and Barrett 2006).

Income fails to represent the full amount of available resources, as individuals can also rely on real and financial assets to cope with the needs of everyday life and to face unexpected events. Thus the economic condition of a household also depends on its real and financial asset holdings (Harttgen and Vollmer 2011) .Asset-based measures highlight the productive capacity of a household. They make it possible to identify households which are less vulnerable to negative shocks like job loss, crop failure, etc.In case their level of income falls, their assets help them maintain their minimum standard of living. Information on the income and asset holdings of households tell us if moving up or down living standard of a household due to a structural (and therefore enduring) change in their resource base or a temporary change in conditions (Carter and Barrett 2006 ; Adato,Carter and May 2006).The same idea is often found in literature on poverty. Consumer units with total earnings below the poverty threshold have different standards of living depending on the value of their net assets. A sudden income drop need not result in lower living conditions if the unit can decrease accumulated assets. On the other hand, income can be above the poverty threshold, yet a family can feel vulnerable because it lacks the financial resources to face an adverse income shock. Assets and liabilities are fundamental to smoothing out consumption when income is volatile. Thus wealth accumulation via “precautionary savings”

is the primary means for households to self-insure against income decline. (Brandolini, Magri and Smeeding .2010)

Furthermore, assets may provide a better picture of long-term living standards than an income snapshot because they have been accumulated over time and last longer. (Moser and Felton 2007). Possession of tangible and intangible assets is a major determinant of the longer term prospects of households and individuals. A drop of current consumption below the poverty line is often seen to have a structural, and hence more worrying, nature when asset holdings are below some critical threshold (Carter & Barrett, 2006). Income is only a means and not an end; most individuals earn with an intention to save and accumulate some assets. (Harttgen and Vollmer 2011)

Filmer and Pritchett (2001) view both the asset index and non-durable consumption as **proxying** unobserved long-run economic status or living standards.

Ownership of assets is strongly associated with the levels of income and consumption. Moreover, asset holdings are crucial for gaining access to credit (Kubo). In the models of Banerjee and Newman (1993) and Galor and Zeira (1993), it is the wealth distribution which determines investment in physical and human capital in economies with indivisible investments and credit market imperfections. Assets and the lack of them are important for measuring material well-being and social exclusion as well as for program eligibility (say, an education or bank loan) and take up. (Sullivan, Turner, & Danziger, 2008; Manlier & Atkinson, 2010; Nolan & Whelan, 2010). Even in industrialized countries where credit market constraints are less severe, the initial distribution of assets (as measured by inherited wealth) may be a key variable for individuals' ability to start up enterprises and climb up the income distribution ladder (Blanchflower and Oswald 1997; Bardhan et al. 1999)

Several studies (Walker and Ryan (1990) Kurosaki's (2006) Kajisa and Palanichamy (2006) etc) confirmed the role of asset ownership in poverty incidence. Assets have frequently been used to describe inequalities in health and education outcomes in international databases such as those in the World Bank's World Development Reports (World Bank 2003, 2005a, 2006), and in several studies (Gwatkin et al. 2000; Bollen et al. 2002; Schellenberg et al. 2003 ; Ainsworth and Filmier

2006; Bicego, Rutstein and Johnston 2003; Case, Paxson, and Able dinger 2004; Evans and Miguel 2004 etc). Literature suggests that economic gradients in education and health outcomes are similar when these are based on per capita expenditures or on an asset index.

Studies proved that Inequality measured with an asset index has as high a correlation as food inequality does. (McKenzie, 2005).Filmer and Pritchett also (2001) calculated the correlation between the asset index and expenditures. They find correlations coefficient between 0.43 and 0.64. Also Grimm et al. (2008, 2009) find a close relationship between the ranking of household income/expenditure and the asset index.

Bardhan, Bowles and Gintis (1999) survey a variety of other mechanisms through which wealth inequality can affect economic performance. Empirically, cross-country studies which examine the relationship between initial inequality and subsequent growth have found a stronger effect of land and human capital inequality, than of income inequality, suggesting that it is asset inequality which matters more (Birdsall and Londoño, 1997).

According to Harttgen and Vollmer (2011), the asset index should not be seen as an alternative measure of income or expenditure. But, in the absence of information on household income or expenditure, the ownership of assets can be used to approximate the household's living standard. (Adato, Carter and May (2006) opines that the analysis of assets and their accumulation is intended to complement income and expenditure based measures. From all this literature, one can understand that asset-based measurement, if used. Is capable of giving a fair understanding of living standards at least when sufficient data on income or expenditure is not available.

Sahn and Stifel (2001) support using the asset-based indicator for three reasons. First, household assets are fewer and easier to measure than household income and expenditure. Second, the accuracy and validity of asset data are better than that of income or expenditure. Finally, asset data are less likely to contain reporting bias.

2.1.3.1 .Single versus multiple indicator approaches

As mentioned above, asset indices use more than one indicator of SOL. So in this context, the debate on single versus multiple indicator approaches to well-being is worth mentioning. A major division in the literature on social indicators is between those who develop a series of indicators but do not attempt to combine the different series into one index. and those who do attempt to aggregate the different series. The first group is critical of the second group.

For example, van de Ven et al. (1999) argue that the single-indicator approach should be abandoned. They put forward the following criticisms of the single indicator approach. Well-being is a multi-dimensional phenomenon and many of the aspects of well-being can only be measured in different terms and therefore an aggregation of these different aspects of well-being is not sensible. It is not sensible to put monetary values on aspects of well-being for which no prices are paid, such as unpaid work and environmental pollution. A single indicator of well-being is of little use for policy as it cannot identify the underlying aspects of well-being because weighting is needed and such a weighting can only be subjective.

In contrast to the advocates of multi-indicators, proponents of the single indicators see their approach as complementary to and not a substitute for the multi-indicator approach. They dispute the criticisms leveled by authors like Van de Ven et al. First, they agree that well-being is multi-dimensional. Still, aggregation is not only possible but desirable, as it is necessary for the scientific understanding of reality. Second, though from a theoretical basis, a general equilibrium approach is the most appropriate to understand reality, it is unrealistic from a pragmatic viewpoint due to the difficulties in constructing worldwide or even national models capturing all interactions among variables. Partial equilibrium estimates of the market value of non-market activities and externalities can be useful and may, in fact, not be that different from those produced by general equilibrium models. Third, the single indicator proponents feel that the multi-indicators school shows a poor understanding of the purpose of single indicators. Policy makers cannot base policy on trends in the single indicator. Also, decline in the single indicator itself shows that there may be a problem. Single indicators are based on trends in many variables and if these trends are transparent, it is easy to identify which particular trends are driving the summary index. Policy makers can then pinpoint where action is needed. Fourth, proponents of

single indicators agree with the multi-indicator school that there is a subjective element in the weighting scheme needed to develop a summary index. But this does mean that summary indexes should not be produced! Governmental and non-governmental organizations must develop single indicators to foster debate on societal developments. The weights used by these organizations in the construction of their indexes may reflect their world views, but that is what debate in a democracy is all about. The most important advantage of single indicators measures of well-being over multiple indicators is their ability to summarize societal trends, a claim that multi-indicators cannot make. (Sharpe 1999, Morris et al. 2000; Filmer and Pritchett 2001; Sahn and Stifel 2001; Oakes and Rossi 2003).

Asset-based measures of SOL are not free from limitations. Even though measurement error in consumption has been used as an argument for asset indices (Filmer and Pritchett 2001; Shan and Stifel 2003), measurement error can also be an important problem in the collection of data on household assets and characteristics. In that case, the correlation between consumption and asset indices will be low. As a result; reliability of asset-based measures may also be low. (Onwujekwe et al. 2006, Bollen et al. (2001) etc).

In addition to these methodological criticisms, some conceptual criticisms are also levied against the use of the asset index in assessing household socio economic positions. The first is that the components of the index are taken from a generic list of commodities, despite the fact that those better off usually have better quality or technological advanced equipment than those less well off (Moser 1998). For example, the better-off may have a colour television rather than black & white one or be able to receive satellite and digital transmissions rather than normal broadcasts. Moreover, the asset index is generally a poor proxy for current household income or expenditure, though it may be a good proxy for the long-term or permanent income. Above all, it is necessary to be aware that the index provides a relative analysis of welfare but says nothing about levels of absolute income or poverty. Therefore, the index can be used to monitor changes in poverty or household ownership over time, but are not able to translate into the reduction in money terms or in terms of material poverty. (Córdova 2008 Gasparini, Escudero, Marchionni and Olivieri 2008)

2.2 .The Data Base: CDS Migration Monitoring Studies (MMS) – 1998-2011

The Centre for Development Studies (CDS) Thiruvananthapuram, Kerala conducts periodic surveys to monitor the current status of emigration from and return emigration to the state of Kerala. So far five such surveys have been carried out, one in 1998, another in 2003, a third one in 2007, the fourth in 2008 and the last in 2011. Information from these surveys constitute one of the few reliable sources of information related to emigration from Kerala.

MMS has classified migrants in Kerala into following categories (Zachariah Mathew and Rajan 2002)

1. Emigrants (EMI hereafter) – Usual residents of a household who moved out and lived outside the country of origin.

2. Return emigrants (REM hereafter) – Usual members of a household who had returned to their country of origin after living outside the country of origin for a year or more; or for a lesser period , if they stayed outside for the purpose of studies or looking for a job.

3. Out-migrants (OMI hereafter) - Usual residents of a household who migrated out of the state of origin and live outside the state of origin but within the country of origin.

4. Return out-migrants (ROM hereafter) - Usual members of a household who had return to the state of origin after living outside the state of origin but within the country of origin for a year or more, or for a lesser period, if stay was for the purpose of studies or looking for a job.

But this definition is applicable for individuals. MMS applied this classification to households (HHs hereafter) in the following manner. This classification was developed by MMS.

a. If there are any EMI in household then the household is termed an EMI.

b. If there are no EMI in a HH but there is at least one REM, then HH is termed an REM household

c. If there is no EMI and REM but there is at least one OMI then the HH is termed an OMI

d. .If EMI=0, REM=0, OMI=0 and ROM>0; the HH is termed an ROM

e. if $EMI=0, REM=0, OMI=0$ and $ROM=0$; the HH is termed OTHERS or NON MIGRANT (NM sometimes).

f. A HH is called a MIGRANT HH if it has at least one individual from the aforesaid categories, namely, EMI, REM, OMI, ROM (i.e. $EMI>0$ or $REM>0$ or $OMI>0$ or $ROM>0$).

Using the above classification, we built household level information of migrants and non-migrant households. It may be noted that the unit of reference is the household and not the individual.

From the five rounds of MMS mentioned above I chose the 1998 and 2008 rounds due to following reasons. Firstly the choice of 1998 and 2008 rounds allows us an understanding about the role played by migration in Kerala's inequalities over the past one decade. Secondly, a panel data set of those households that appeared in both rounds is available only for 1998-2008 period.

I used information on fuel use, housing condition, land holding and possession of certain consumer durables of HHs available in KMS 1998, MMS 2008 and 1998-2008 panel data. In addition I used information on (annual household consumer expenditure, savings and investment behavior) of 3,000 households surveyed in 2008 round. For sake of convenience all these rounds will be together referred to as KMS (Kerala Migration Survey).

2.3. Towards Building a Composite Index of Standard Of Living

2.3.1 .Components of the Asset Based index on SOL

To build an asset-based index on standard of living, we used the following indicators from the KMS: fuel used by the HH, the type of house of the HH, possession of Motorcar, Motorcycle/Scooter, Telephone (landline), Television, Audio visual entertainment equipment and Refrigerator and land holding by HH.

The indicators used in the construction of this asset index falls in line with those indicators used in the literature on asset-based analyses of standard of living. According to Black (2003) assets are possessions of value, both real and financial. Obviously, a vast amount of such possessions can be called assets. Asset-based studies on Standard of living normally use a subset of possessions of an individual/HH to represent the actual asset possession; as collecting

information about the whole range of possessions of an individual/HH is difficult. This subset differs for different authors.

Filmer and Pritchett (2001) used information on a wide variety of household characteristics to build an asset index. These characteristics include the possession of durables (clock/watch,bicycle,radio,television,sewingmachine,motorcycle/scooter,refrigerator,car),drinking water source (If from Pump/Well/Open Source),Toilet type, Main Source of Lighting, Number of Rooms in Dwelling, If Kitchen a Separate Room, Main Cooking Fuel and land holding of HH.Manlagñit (2004) used a fewer number of possessions in his asset list (Refrigerator, Gas/Electric Oven,Stove,Radio,Television,Phone (portable and fixed),Man/Animal-driven vehicle and Motorcycle).McKenzie (2005) divided the variables used in asset indicators into housing structure (number of rooms, type of floor, roof and walls, ownership status), household access to utilities and infrastructure (electricity, telephone, sewerage, etc.) and ownership of durable assets (vehicles, electronic equipment, heating and air-conditioning equipment).Ovensen (2006) included the following HH characteristics in his asset index :No. of rooms used for sleeping, if Connected to water/sewerage network, No. of landlines/mobile phones, No. of private cars, No. of rooms with air-conditioner, No. of washing machines, freezers and computers, Size of irrigated/ non-irrigated land, Size of cultivated/non-cultivated land and ownership of commercial, industrial or service establishment. The asset index used in Garip included details about land ownership, number of (cows, buffalos or pigs); number of (TVs,VCRs, refrigerators, cars, motorcycles, tractors, rice threshers, and sewing machines) and finally details about housing quality (if house has windows, does household uses gas or electricity for cooking and whether water is piped into the household).Harttgen,Klasen, and Vollmer (2011),used the following variables to construct an asset index: radio, TV, refrigerator, bike, motorized transport, capturing household durables and type of floor material, type of wall material, type of toilet, and type drinking water capturing the housing quality.

One of the limitations of KMS data is that KMS 1998 and 2008 rounds did not collect data on same type of assets/consumer durables. To make the results obtained from both rounds comparable, only information about those assets/durables about which data was collected for both 1998 and 2008 rounds of KMS is included in computation of asset-based Standard of Living Index.

The coding is as follows

*Fuels*¹ : wood or any other fuel - 1; kerosene- 2; LPG – 3; Electricity – 4.

Household types : Kutcha house -1, poor house (Brick walls, cement floor, tin or asbestos roof) – 2; Good house (1 bed room, brick and cement walls, concrete or tiled roof)- 3; Very Good house (2 bed rooms with attached bathrooms concrete roof, Mosaic floor) – 4; Luxurious house (with more qualification than all the other 4 types of houses) - 5

The consumer durables: ranked as whether owning or not, coded as 1 and 0 respectively.

Land holding: Data on land holding is available as cents of land owned by each HH

2.3.2 .Method of building a composite index of standard of living

According to Mahmood (1977), a composite index I from variables/indicators X1, X2, Xn is obtained by their weighted sum as:

$$I = W_1X_1 + W_2X_2 + \dots + W_nX_n$$

Where W1, W2.....Wn are the weights of the corresponding variables/indicators.

Construction of composite index, in the above manner, poses two serious problems: one, removing the biasness of scale, and the next, determining the weights of variables/indicators.

¹ Scores for fuel use are consistent with the evidence from literature on fuel use of households. As income increases households move from wood/other biomass to kerosene then to LPG and finally to electricity. This is known as ‘fuel ladder’ hypothesis. (Sathaye and Taylor 1991, Cecelski et al 1979, Leach (1988,1992) Reddy (1990,1994)). Even though literature identifies other factors that govern this preference like education and sex of the head of the household, family size and occupation of the head of the household, cultural or social preferences and tastes etc (Filippini and Pachauri 2004, Hosier and Dowd 1987, Davis 1998, Masera et al. 2000 and Barnett 2000 and Reddy 1995) none of the studies deny that income is the principal determinant in the transition of fuel use pattern. But there is a chance of multiple fuel use (Hosier and Dowd 1987, Gangopadhyay et al 2003 etc).

(a) Removing the biasness of scale using range equalization method

The variables chosen for working out composite indices are measured in different units and hence in general, not directly additive. This is true in the case of KMS data too. It is therefore necessary to convert them to some standard unit so that initial scale chosen for measuring the variables does not bias the results.

As mentioned above, adopting the methodology followed by UNDP in HDI construction is of Range equalization² (RE hereafter). The three component indices of the Standard Of Living Indicator (SOLI hereafter) are calculated as follows:

$$I = (I_i - \text{Min } I) / (\text{Max } I - \text{Min } I) \quad (1)$$

Where

I_i = Actual value of the particular indicator attained by a particular household.

Min I = Observed Minimum value of the particular indicator.

Max I = Observed Maximum value of the particular indicator.

1. House characteristics Index

The application of range equalization method to each of the indicators is as follows

$$FI_i = (f_i - 1) / (4 - 1) \quad (2)$$

² Different methods like conversion to a discrete scale, standardisation (dividing the deviation of each observation from the mean), division by standard deviation, division by mean etc. All these methods except division by mean has disadvantages such as shift of origin/distortion of relative position of original variables, equalizing variance of the initial distribution of variables etc. Therefore I tried to remove the scale effect by dividing with mean. But even after dividing by the mean, the indicators suffered from severe outlier problem, especially for data on land holding. Examination of data on transformed indicators revealed that even after division by mean there are extremely large observations. This was feared to heavily skew the distribution of the proposed composite index, not representative of actual distribution. Then I tried the Range equalization (RE) method which is used by UNDP for computing Human Development Index (HDI), wherein each indicator is divided by the range (after subtraction of the lowest value). No Outlier problem as with division by mean method was found. In addition, the familiarity and popularity of this method among practitioners and policy makers is an additional reason for choosing the same.

Where FI_i = index of fuel of i th household; f_i = fuel score of i th household

$$HI_i = (h_i - 1) / (5 - 1) \quad (3)$$

Where HI_i = index of type of house i th household; h_i = type score of i th household

$$H_i = (FI_i + HI_i) / 2 \quad (4)$$

Where H_i is the average household index for characteristics of house.

2. Consumer durables Index

$$CT_i = \sum C_{it} \quad (5)$$

Where t is type of consumer durables such as Motorcar, Scooter, Telephone, Television, Audio visual entertainment equipment Refrigerator of the i th household. C is score of t th consumer durable in the i th household, which could be either 0 or 1. CT is the consumer durables score for the i th household.

$$CTI_i = (CT_i - \min CT) / (\max CT - \min CT) \quad (6)$$

Where CTI is the consumer durables index for the i th household.

3. Land size Index

$$LI_i = (L_i - \min L) / (\max L - \min L) \quad (7)$$

Where LI is the land size index for the i th household, L is the land holding size in cents of land.

(b) Determining the weights of indicators using Principal Components

After identifying the variables and eliminating the biasness of scale from their measurement, the crucial problem in preparing a composite index is assigning proper weights to the indicators. Weights are attributed to the indicators on a subjective basis if the researcher has sufficient insight about the nature and magnitude of the interrelations among the variables. Nevertheless, the researcher's subjective understanding of the indicators would bias the indicators. The alternative is to use objective criteria for weightage.

Objective weights are provided using different methods. Equal weights are one of the popular methods, the argument being that the index will not favor any particular variable/component. But all variables used in index construction are not always of equal importance. Even in situations when equal importance must be given to all variables, this method may mislead you if equal importance is misinterpreted as equal correlation with the composite index or equal representation in the variance of the composite index.(Kundu 1980). Alternatively, sometimes a set of weights are imposed on the basis of exogenous conditions. For instance, prices of various assets could be used to construct an index of household wealth, but this is possible only if the prices of various assets are available. (Filmer and Pritchett 2001). A third solution is to not to construct an index but simply enter all asset variables individually in a multivariate regression equation. This is the approach recommended in Montgomery, Burke, Paredes and Zaidi (1997) However, as recognized by Montgomery et al (1997), it does not identify the wealth effect as many assets play a both a direct and an indirect effect on outcomes. There is no way to infer from the unconstrained coefficients on the asset variables from a multivariate regression the impact of an increase in wealth. Another method is to maximize the sum of squared projections

In this study, we use the scores of first principal component as weights for different components of the asset indicator. This technique became popular after the pioneering work of Filmer and Pritchett (2001). Suppose there is the need to select some indicators to understand some underlying construct, but you think that the indicators are highly correlated. PCA find linear combinations that maximize variance subject to being uncorrelated with those already selected. Hopefully, there are few such linear combinations - known as principal components. Principal component analysis (PCA) is a mathematical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components. The number of principal components is less than or equal to the number of original variables. This transformation is defined in such a way that the first principal component has the largest possible variance (that is, accounts for as much of the variability in the data as possible), and each succeeding component in turn, has the highest variance possible under the constraint that it be orthogonal to (i.e., uncorrelated with) the preceding components.

Both objective and subjective attributes can be used to build the index using PCA provided the subjective attributes can be converted into scores. The other main advantage of PCA is that you can compress the data, i.e., reduce the number of dimensions, without much loss of information. PCA is relatively easy to compute and understand, and provides more accurate weights than simple summation. (Smith 2002). According to Moser and Felton (2007) PCA is an appealing method for combining variables for two reasons. First, it is technically equivalent to a rotation of the dimensional axes, such that the variance from the observations is minimized. This is same as calculating the line from which the orthogonal residuals are minimized. This is similar to a regression in terms of minimizing residuals, but in this case the residuals are measured against all of the variables, not just one “dependent” variable. Thus we can have an idea about the impact of a variable/indicator on total index even if all information is not available as values. PCA is a valuable approach also because the coefficients have a fairly intuitive interpretation. If ownership of one type of asset is highly indicative of ownership of other assets, then it receives a positive coefficient. If ownership of an asset contains almost no information about what other assets the household owns (its correlation coefficient is near zero), then it receives a coefficient near zero. Owing to its aforesaid merits, PCA is used as the method of assigning weights in many of the available studies on asset indices (Moser and Felton 2007, McKenzie 2005, Prakongsai 2006, Filmer and Pritchett 2001, Kundu 1980, Mahmood 1977, Vyas and Kumaranayake 2006, Labonne, Biller and Chase 2007).

I computed the First principal component scores for those 3 indicators to be used as weights for the 3 indicators in the final index.

The Principal Component (PC) scores can be represented as PCHouse (PCH), PCLand (PCL) and PCOther (PCO).

I would like to apply Principal component analysis in the way in which it was applied by Filmer and Pritchett (2001). We have three components of asset indicator with us. These components have to be assigned weights. a^*_{1j} , a^*_{2j} and a^*_{3j} represent the position j^{th} household in each of this three assets. Principal components starts by specifying each component index normalized by its mean and standard deviation: for example, $a_{1j} = (a^*_{1j} - a^*_{1}) / (s^*_{1})$, where a^*_{1} is the mean of a^*_{1j} across households and s^*_{1} is its standard deviation. These selected variables are expressed as linear combinations of a set of underlying components for each household j :

$$a_{1j} = v_{11} \times A_{1j} + v_{12} \times A_{2j} + \dots + v_{1N} \times A_{Nj} \text{ (where } j = 1, \dots, J)$$

$$a_{2j} = v_{21} \times A_{1j} + v_{22} \times A_{2j} + \dots + v_{2N} \times A_{Nj} \text{ (where } j = 1, \dots, J)$$

$$a_{3j} = v_{31} \times A_{1j} + v_{32} \times A_{2j} + \dots + v_{3N} \times A_{Nj} \text{ (where } j = 1, \dots, J) \quad (8)$$

where the A s are the components and the v s are the coefficients on each component for each component index (and do not vary across households). Because only the left-hand side of each line is observed, the solution to the problem is indeterminate. Principal components overcomes this indeterminacy by finding the linear combination of the variables (here our component indices) with maximum variance - the first principal component A_{1j} — and then finding a second linear combination of the variables, orthogonal to the first, with maximal remaining variance, and so on.

Technically, the procedure solves the equations $(R - \lambda nI)v_n = 0$ for λ_n and v_n , where R is the matrix of correlations between the scaled variables (the a s) and v_n is the vector of coefficients on the n th component for each variable. Solving the equation yields the characteristic roots of R , λ_n (also known as eigenvalues) and their associated eigenvectors, v_n . The final set of estimates is produced by scaling the v ns so the sum of their squares sums to the total variance, another restriction imposed to achieve determinacy of the problem.

The “scoring factors” from the model are recovered by inverting the system implied by Eq. (8), and yield a set of estimates for each of the three principal components:

$$A_{1j} = f_{11} \times a_{1j} + f_{12} \times a_{2j} + \dots + f_{1N} \times a_{Nj}$$

$$A_{2j} = f_{21} \times a_{1j} + f_{22} \times a_{2j} + \dots + f_{2N} \times a_{Nj}$$

$$A_{3j} = f_{31} \times a_{1j} + f_{32} \times a_{2j} + \dots + f_{3N} \times a_{Nj} \quad \text{Where } j = 1, \dots, J \quad (9)$$

The first principal component, expressed in terms of the original (unnormalized) variables, is therefore an index for each household based on the expression

$$A_{1j} = f_{11} \times (a^*_{1j} - a^*_1)/(s^*_1) + f_{12} \times (a^*_{2j} - a^*_2)/(s^*_2) + f_{13} \times (a^*_{3j} - a^*_3)/(s^*_3) \quad (10)$$

STANDARD OF LIVING INDEX (SOLI) is a weighted average of the scale-free indicators of standard of living, the indicators being house characteristics, consumer durables characteristics, and land size. The weights are the scores of the first principal component generated through factor rotation method. In notations,

$$SOLI_i = ((H_i * PCH + CTI_i * PCO + LI_i * PCL) / 3 * (PCH + PCO + PCL)) * 100 \quad (11)$$

SOLI thereafter converted into values ranging from 0 to 100

The eigenvectors for First, Second and Third principal components were 1.684, 0.949 and 0.367 respectively. The first, Second and Third principal component explained 56.1%, 31.6 and 12.2% of variance of the component indicators. The first principal scores for three component indicators viz. The House characteristics Index, Consumer durables Index and Land size Index are 0.867, 0.891 and 0.350 respectively. The more variance in SOLI is explained by house characteristics and possession of consumer durables than land holding of households.

2.3.3 .Behaviour of SOLI

The behaviour of standard of living index is analysed by computing basic descriptive statistics and by constructing histograms. These were computed for both SOLI and its component indicators.

2.3.3.1 .Summary statistics of SOLI and Component Indicators

The following tables give the summary statistics of SOLI and its component indicators for 1998 and 2008, as well as both years combined

Table 2.1 – Summary statistics of SOLI and component indicators (1998)

1998	FI _i	HI _i	H	CT _i	CTI _i	LI _i	SOLI _i
Mean	0.14	0.44	0.29	2	0.25	0.011	27
Median	0.001	0.5	0.25	2	0.25	0.0032	20
Range	1	1	0.875	8	1	1	100
SD	0.26	0.21	0.2	1.89	0.24	0.026	20.4

Table 2.2 – Summary statistics of SOLI and component indicators (2008)

2008	FI _i	HI _i	H	CT _i	CTI _i	LI _i	SOLI _i
Mean	0.25	0.53	0.38	3.46	0.49	0.01	44.59
Median	0.001	0.5	0.25	3	0.42	0.003	41.6
Range	1	1	1	7	1	0.74	98
SD	0.32	0.199	0.22	1.75	0.25	0.02	20.86

Table 2.3 - Summary statistics of SOLI and component indicators (1998/2008 combined)

ALL	FI _i	HI _i	H	CT _i	CTI _i	LI _i	SOLI _i
Mean	0.2	0.49	0.35	2.8	0.4	0.01	37.76
Median	0.001	0.5	0.25	3	0.42	0.003	34.19
Range	1	1	1	7	1	1	99.99
SD	0.3	0.21	0.22	1.89	0.27	0.02	22.24

Compared to 1998 SOLI and it's component indicators (except land) is showing an improvement with respect to summary statistics. This indicates that standard of living of households have improved in the 10 year period.

2.3.3.2 .Histograms for SOLI and it's component indicators

The following are the histograms for SOLI and it's component indicators for 1998 and 2008

1.Index of housing conditions (H)

Figure 2.1 .Histogram of index for housing conditions.

Figure 2.1 show the histograms of index of housing conditions (H). The figure has two parts. Part (a) show the histogram of 1998 and part (b) show the histogram of 2008. X axis represent the scores of H and Y axis represents the percentage of households having different values of H.

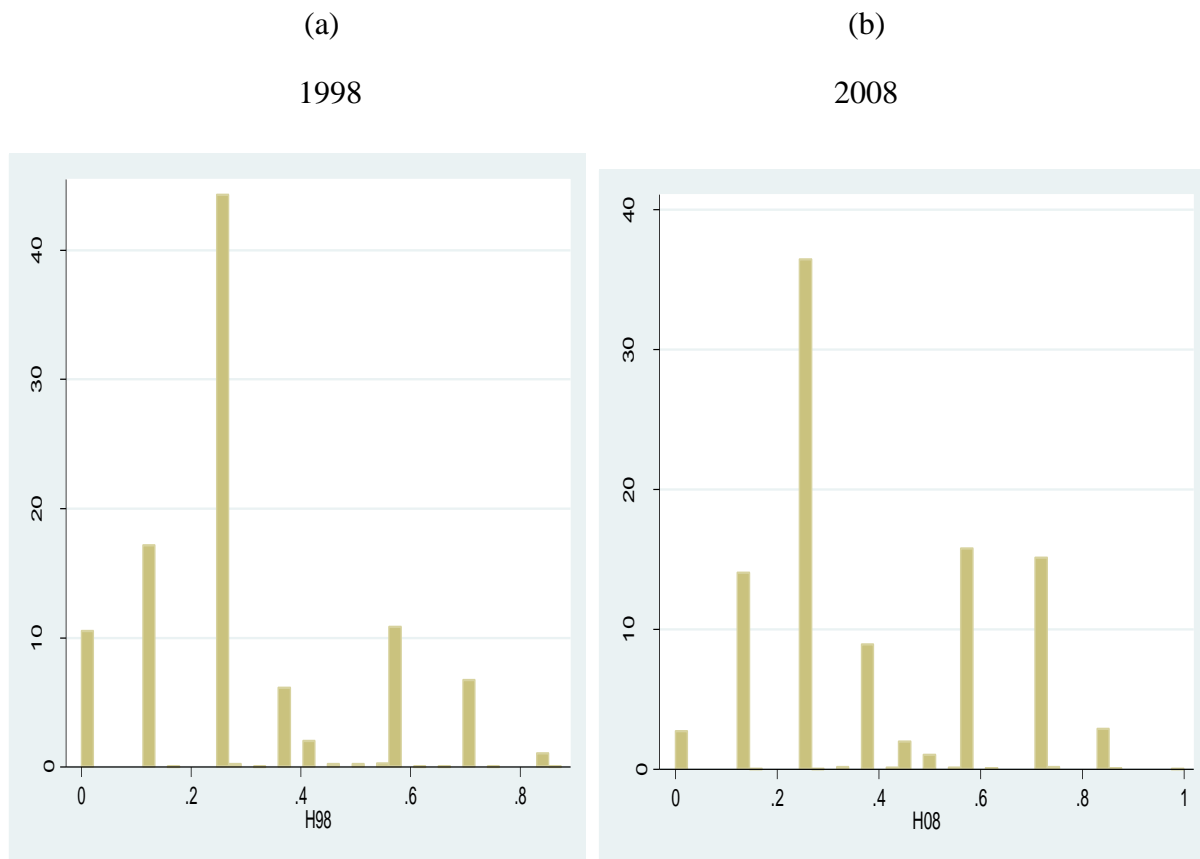


Figure 2.1(a) show that in 1998, majority of households have 'H' values falling between 0.2 and 0.3. But from figure 2.1(b) it is clear that there is an improvement in housing condition in the 10 year

period. The number of households having H values close to zero declined. In the 10 year here is an increase in number of households with high H scores.

2.Index of possession of durables (CTI_i)

Figure 2.2 – Histogram of index of possession of consumer durables

Figure 2.2 show the histograms of index of possession of consumer durables (CTI_i). The figure has two parts. Part (a) show the histogram of 1998 and part (b) show the histogram of 2008. X axis represent the scores of H and Y axis represents the percentage of households having different values of CTI_i.

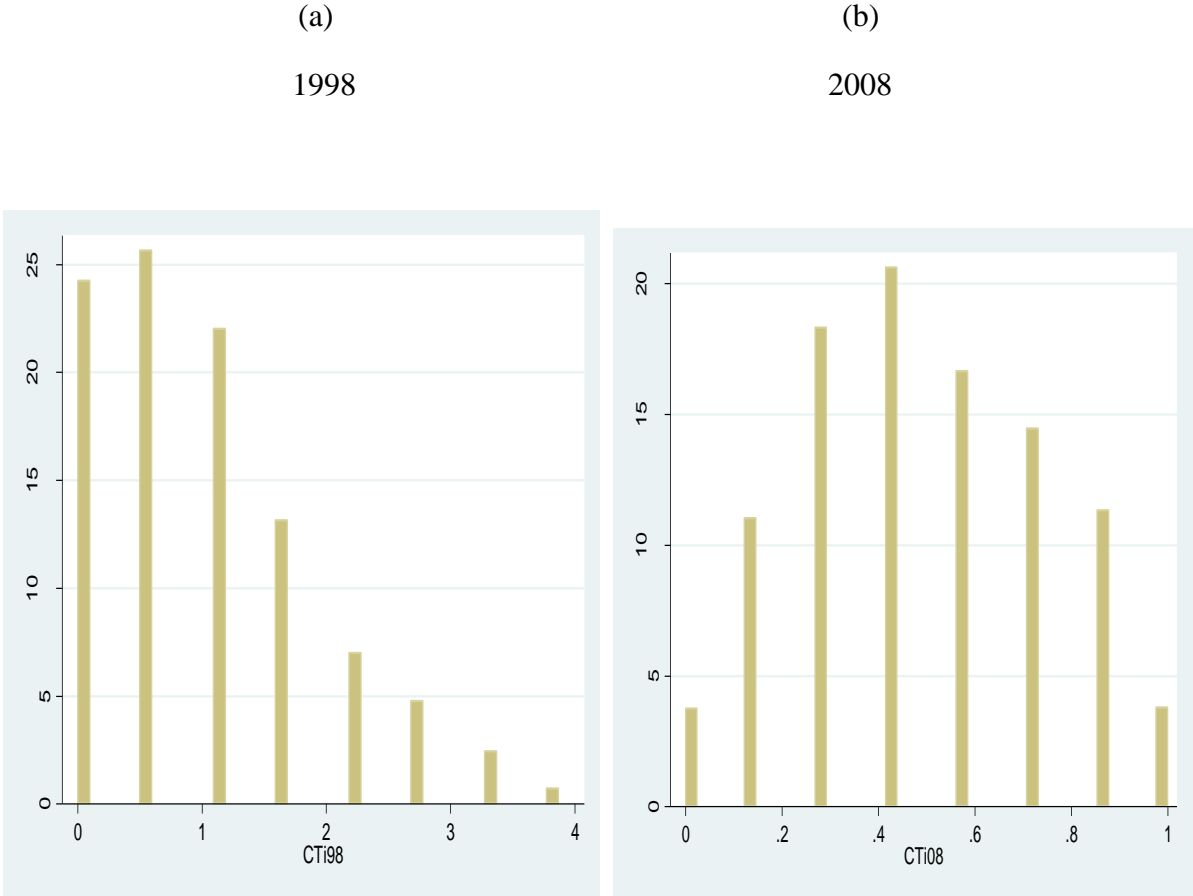


Figure 2.2 (a) show that in 1998 majority of households have CTI_i less than 0.2. But from figure 2.1(b) it can be seen that compared to 1998, more households in 2008 have higher CTI_i values in 2008. Similarly the number of households in lower rungs of CTI_i declined in the 10 year period.

3.Index of land holding

Figure 2.3 – Histogram of index of land holding (L)

Figure 2.3 show the histograms of index of land holding (L) . The figure has two parts. Part (a) show the histogram of 1998 and part (b) show the histogram of 2008. X axis represent the scores of L and Y axis represents the percentage of households having different values of L.

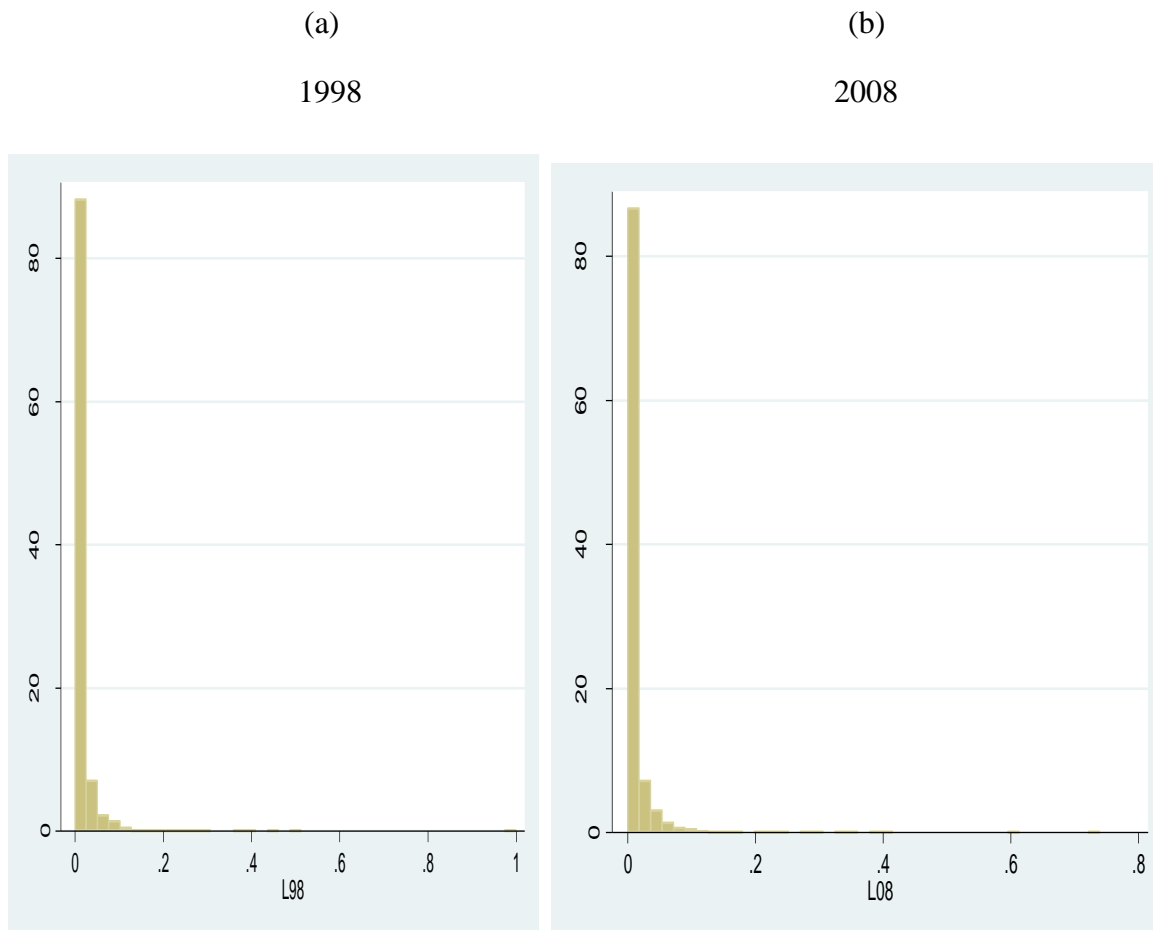


Figure 2.3 (a) show that in 1998 majority of households have small landholding. From figure 2.1(b) it can be seen that unlike other indicators, histogram of landholding in 2008 does not show any improvement. Majority of households continue to hold small plots of land.

4. Standard of living indicator (SOLI)

Figure 2.4 show the histograms of Standard of living indicator (SOLI) . The figure has two parts. Part (a) show the histogram of 1998 and part (b) show the histogram of 2008. X axis represent the scores of SOLI and Y axis represents the percentage of households having different values of SOLI.

Figure 2.4 – Histogram of Standard of living indicator (SOLI)

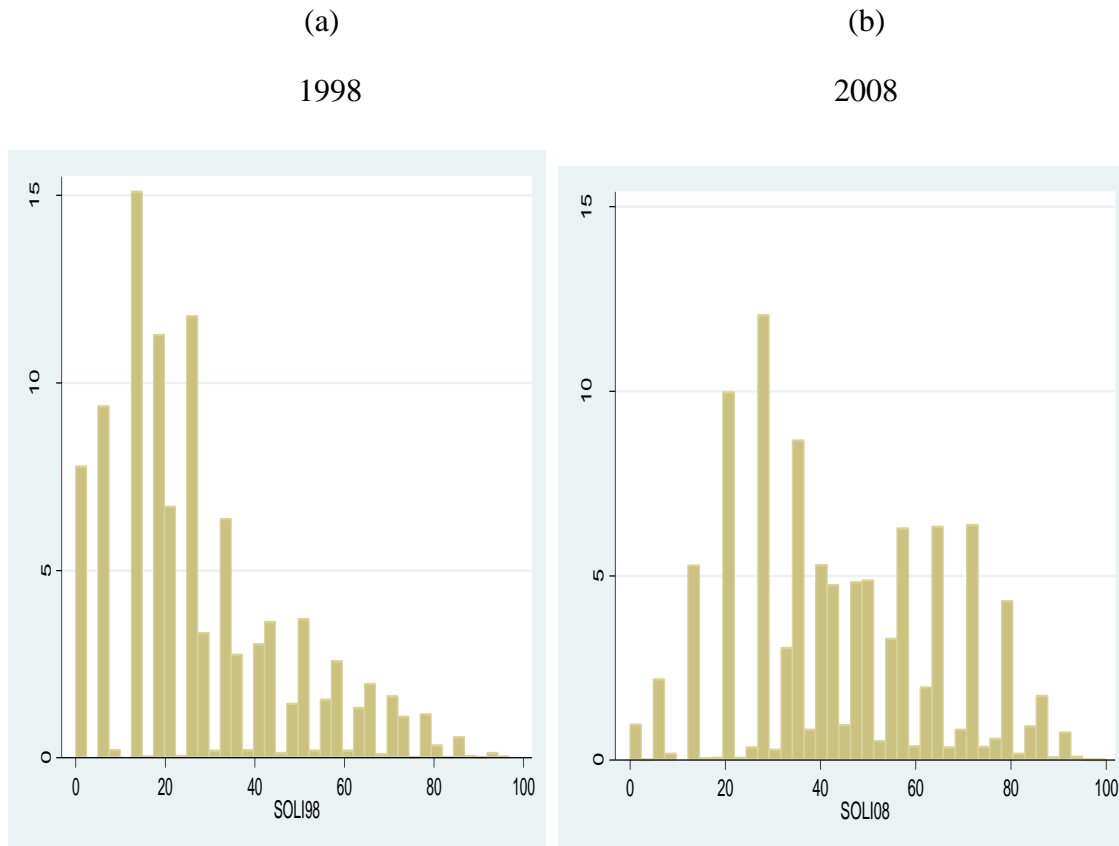


Figure 2.4 (a) show that in 1998 majority of households have SOLI less than 30. But from figure 2.4(b) it can be seen that compared to 1998, more households in 2008 have higher SOLI values in 2008. Similarly the number of households in lower rungs of SOLI declined in the 10 year period.

Histograms of SOLI and its component indicators show that there is a general improvement in standard of living of the households in the 10 year period. Compared to 1998 more households performed better in attainment of various indicators of standard of living. Land holding is the only indicator where there is not much improvement. It may be due to increase in pressure on existing land resulting in fragmentation.

Compared to 1998, SOLI and its component indicators (except land) show an improvement with respect to summary statistics. This indicates that standard of living of households have improved during the 10-year period.

2.3.3.3 .Internal Coherence of the Asset Index

The mean value of the final index increases steadily from lowest to highest quintile of the scores of the final asset index. The mean value for first, second, third, fourth and fifth quintile are 12,29,49,70 and 87 respectively. Thus the index was found to be internally coherent.

2.3.3.4 .Robustness of the Asset Index

To test for robustness of SOLI, I prefer to use the method adopted by Filmer and Pritchett (2001) (who did pioneering work in computation of asset indicators by applying a scientific weightage scheme for indicators used in computing asset indices). They tested robustness in two ways. First, they obtained 'sub indices' either by combining a few among the component indices of the final index or by dropping a few among the component indices of the final index. Then they computed the rank correlation coefficient between these sub indices. According to Filmer and Pritchett, High rank correlation means that the index produces similar ranking of Hhs when both SOLI/sub indices are used and is hence robust. I combined the 3 component indices ('House', 'other' and 'land') in 3 different ways ('House' and 'other'/'other' and 'land'/'House' and 'land'). The rank correlation of the 3 indices mentioned in brackets with SOLI are 0.878, 0.925 and 0.674 respectively. Filmer and Pritchett (2001) made an additional check for robustness using a different methodology for deriving the weights. They used factor analysis instead of principal component to derive weights and again computed correlation coefficient of factor analysis based index with principal component based index to check for robustness. In our case, the correlation with factor analysis based index is 0.98. Thus the index is reasonably robust.

Summary and Conclusion

The aim of this study is to understand the role of migration in Kerala's inequalities by comparing living standards of migrant and non-migrant households. For that we have to first decide how to measure it. I reviewed the merits and demerits of various measures of standard of living. This review showed that even though data on income or its proxies (consumption or expenditure) is the best means to understand standard of living, when such data are not available, information on the household's asset holding can be used to understand its standard of living. I am using the data base generated by CDS MMS for my analysis, since data on income or its proxies are not available in CDS MMS in an adequate manner, I prefer to use information on the asset holding of households. To understand and ascertain the role of migration in asset-based inequality, a proper measure of the asset holding of households is needed. I derived an asset index which combines the methods of range equalization (for removing scale bias) and principal component analysis (for assigning weights to variables). This is the index used in this study to understand the role of migration in inequality.

Chapter 3

Role of Migration in Kerala's inequality scenario

3.1 - Introduction

Migration and remittances play an important role in Kerala economy and society. Remittances sent by migrants were as much as 31 percentage of Kerala's net state domestic product. But only 17 percentage of Kerala's households are benefiting from migration (Zachariah and Rajan 2010, 2012). So a huge amount of money is coming only to a minority of Kerala's households. Does this remittance cause inequalities in the standard of living between households with and without migrants? This is the question this study is trying to answer. The data collected by CDS from 1998 and 2008 rounds of Kerala Migration Survey is used for this study. The preceding chapter is a detailed discussion of what are the ways in which Standard of living and inequality can be understood and measured. Also has developed an asset based indicator of standard of living. In this chapter attempt has been made to apply all possible things that were discussed in Chapter 2 in the context of our research problem. As the first step a comparison has been made between the characteristics of migrant and non migrant households to see migrant households are different from non migrants households. If migrant households appear to be better than non migrant households, an analysis of the the distribution of standard of living indicator (SOLI) will help if there is primary evidence of inequality between migrant and non migrant households. This could be ascertained by applying suitable statistical techniques. Even if migration is proved to create some inequalities between migrant and non migrant households, still there is the need for analysing the other factors that are causing inequalities in Kerala. This chapter begins with a discussion of the sample characteristics of KMS.

The following are the sample characteristics of KMS.

In 1998 round of KMS, Ten thousand households were covered out of which 6157 were non migrant households and 3843 were migrant households. In these households, there were 29526 non migrant individuals and 5940 migrant individuals. In 2008 round of KMS, Fifteen thousand households were covered out of which 9593 were non migrant households and 5407 were migrant households. In this households, there were there were 42433 non migrant individuals and 25024 migrant individuals.

Before analyzing whether there is inequality in standard of living between migrant and non migrant households, it is important to see in what all respects they differ each other. So a comparison of the demographic and social characteristics of migrant and non migrant households is effected

Table 3.1 - Demographic and Social Features of the Sample Households

		1998		2008	
		Migrants	Non-Migrants	Migrants	Non-Migrants
Sex Composition (percentage)	Male	82.60	49.93	79.60	49
	Females	17.40	50.07	20.40	51
Age Composition	20-40	86.00	63.00	84.00	61
	40-60	13.10	24.00	15.12	25
	Above 60	0.90	13.00	0.88	14
Religion	Hindu	36.00	55.25	47.00	54.3
	Muslim	33.00	24.80	30.00	25.4
	Christian	22.00	19.90	22.00	20.29
	Others	9.00	0.05	1.00	0.01
	SC/ST	4.00	13.00	3.00	14
	OBC	62.00	52.00	60.00	48
	General	34.00	35.00	37.00	38
Educational Qualification(percentage)	Less than Secondary	26.00	76.00	49.00	73.00
	Less than Graduate	27.00	19.00	28.00	19.00
	Graduate	39.00	4.00	14.00	6.00
	Greater than Graduate	6.00	1.00	7.00	2.00
Average Family Size		5	5	5	4
Sex of the Head of the Household	Male	68.40	77.10	68.50	76.35
	Female	31.60	22.90	31.50	23.65

Table 3.1 compare the Sex Composition (percentage), Age Composition (percentage), Religion, Caste, Educational Qualification(percentage) and Sex of the Head of the Household of migrant and non migrants .Except for average family size,all entries of table 3.1 show the percentage of households or individuals (as in the case of sex composition) . First row compares the sex composition of migrant and non migrants In 1998 82.6 percent of migrants were males and 17.4 percent of migrants were females .Corresponding values for 2008 were 79.6 and 20.4 percent respectively . Thus female participation in migration is increasing .But non migrant males and females are distributed in almost equal proportion in 1998 and

2008 .This shows that even though migration is a male dominated phenomena, female participation in migration has increased in the 10 year period (1998-2008) .The second row of table 3.1 shows the age composition of migrants and non migrants .Around 60 percent of non migrant households continue to belong to 20-40 age group in the 10 year period . In 1998, 86 percent of migrants were 20-40 years old. In 2008 84percent of migrants were 20-40 years old. Thus migration continues to remain mostly confined to younger people even though their contribution has slightly declined in the 10 year period .Row 3 of table 3.1 shows the religion of migrant and non migrant households .In 1998 55.25 percent of non migrant households were Hindus, 24.8 percent were Muslims, 19.9 percent were Christians and 0.05 percent belonged to other religions .In 2008 the corresponding figures were 54.3,25.4,20.29 and 0.01 respectively .But the religious composition of migrant households differ from that of non migrant households .In 1998, 36 percent of migrant households were hindus,33 percent were muslims,22 percent were Christians and the rest followed other religions .In 2008, 47 percent of migrant households were hindus,30 percent were Muslims,20 percent were Christians and rest followed other religion .Thus even though majority of non migrant households were Hindus, Muslim community along with Hindus, hold a major share of migrants .Even though their share in total number of migrant households declined in 10 year period, they continue to retain a prominent share in the number of households with migrants .Fourth row of Table 3.1 compares the caste composition of migrant and non migrant households .In 1998,around 52 percent of non migrant households were OBCs,35 percent belong to General category and 13 percent of non migrant households were SC/STs .The corresponding figures in 2008 were 48,38 and 14 .In 1998,34 percent of migrant household belong to General category,62 percent belong to OBC category and 4 percent belong to SC/ST category .The corresponding figures for 2008 were 38,48 and 14 .Thus OBC households continue to dominate in the number of migrant households, even though their dominance declined in the 10 year period .Fifth row of table 3.1 compare the educational qualification of migrant and non migrants .In 1998, 76 percent of non migrant households had education below secondary level .19 percent had education above secondary but less than graduation .The rest of them are either graduates or post graduates .Corresponding figures for 2008 were 73,19,6 and 2 percentage respectively . In 1998, 26 percent of migrants did not have secondary education, 27 percent had only secondary education,39 percent were graduates and 6 percent have qualification above graduation. The corresponding figures for 2008 were 49 percent, 28 percent ,14 percent and 7 percent respectively. The analysis of educational characteristics reveal the following .One ,migrants are better educated than non migrants .Second, there is a fall in the share of graduates in total number of migrants and the rise in number of migrants without secondary education in the 10 year period .This may be due to the higher availability of remunerative jobs for graduates within Kerala. It may be the case that poorly educated people are forced to migrate for a job.

Sixth row of Table 3.1 compares the mean family size of migrant and non migrant households .On an average both migrant and non migrant households had a strength of 5 members in 1998 .The corresponding figures for 2008 were 5 and 4 respectively. The exact mean household size for migrant and non migrant HHs are 5.14 and 4.8 in 1998 and 4.63 and 4.42 in 2008.Thus households with more members have migrants. Seventh row of Table 3.1 compares the Sex of head of household of migrant and non migrant households .In 1998 75.1percent of HHs were male headed and rest were female headed. This percent is 68.4 for migrant HHs and 77.1 for non migrant HHs. The corresponding figures in 2008 were 73.5, 68.5 and 76.35 respectively .Thus even though majority of migrants are males, their absence from HHs is not turning them female headed.

To conclude, migrant households are socially and demographically different from non migrant households .Similar difference can also be observed between migrant and non migrant individuals .Most of the migrants are males .They belong to 20-40 age group and are better educated than non migrants .Most of migrant households belong to Muslim religion and OBC caste .They have a higher family size than non migrant households .But this difference does not tell much about inequality. Hence the need to compare standard of living of migrant and non migrant households .Literature review on indicators of standard of living in chapter 2 showed various indicators of standard of living .Therefore a comparison of standard of living of migrant and non migrant households is necessitated. .

Here after for sake of convenience, Migrant households in 1998 will be represented as m98, Non Migrant households as nm98, Migrant households in 2008 as m08, and Non Migrant households in 2008 as nm08. All 98/08 represent the whole sample (migrant plus non migrant households in 1998 and 2008).

3.2 .Comparison of Income and Asset Dimensions of Migrant and Non Migrants

3.2.1 .Income Dimension:

KMS do not have any data on income of households .So information on monthly household consumption expenditure of 3000 households collected in 2008 round of KMS will be used to proxy income. This information is not available in 1998 round of KMS .Mean consumer expenditure of migrant households is 6190 Rs (in nominal terms) which is higher than non migrant household by 1159Rs.Moreover this difference was significant at 5percentage level. Thus on an average, migrant households are able to spend more than non migrant households. This indicates that migrant households have better income/wealth. But a mere average does not mean that migrant households are better off than non migrant households. Moreover it does not talk anything about distribution and hence inequality. The simplest way to

understand if there is any inequality between consumption expenditure of migrant and non migrant households is to see how the monthly household consumption expenditure of households is distributed among migrant and non migrant households. Table 7 shows the percentage of migrant and non migrant households spending different amounts as monthly household consumption expenditure.

Table 3.2 – Distribution of monthly household consumption expenditure in 2008 (In Rupees)

	Migrant HH	Non migrant HH
Less than 1000	0.20	0.90
1000 -2000	1.60	5.60
2000 - 3000	7.20	14.50
3000 - 4000	12.70	19.70
4000 - 5000	15.60	18.20
5000 - 6000	17.80	13.20
6000 - 7000	9.30	10.00
7000 - 8000	7.40	6.10
8000 - 9000	6.30	3.30
9000 - 10000	3.50	2.70
Above 10000	18.40	5.80
Total	100.00	100.00

Table 3.2 shows that compared to migrant households, more non migrant households spend up to 5000 per month. Compared to non migrant households, more migrant households spend more than 5000 per month. The distribution of monthly household consumption expenditure is in favor of migrants. Thus it could be argued that migration is leading to inequality between migrant and non migrant households. But analysis based on income proxies has a limitation. Data on income proxies is available only in 2008 round of KMS.that too for only 3000 households. So only a static analysis is possible .Comparison of role of migration in inequality for a considerable time period is not possible.

As mentioned in the review of measurement of SOL, at least when data on income and its proxies are not available, assets can be used to understand and measure SOL. KMS has information on certain indicators of households asset possession like land ownership of households, housing conditions of households, cooking fuel used by households and possession of certain assets/durables by households. Unlike income proxies, this information is available for both 1998 and 2008 rounds of KMS. So they will be used to make a comparison of role of migration in inequality for 1998 and 2008. The first to be ascertained is how migrant and non migrant households behave with respect to each of the aforesaid indicators of households asset possession.

3.2.2 .Asset Dimensions:

3.2.2.1 .Ownership of land

In 1998, 93 percentage of non migrant households own land while 95percentage of migrant households own land .The respective figures for 2008 are 96 percentage and 98 percentage respectively. More migrants hold land than non migrants. But the gap between percentage of migrant and non migrant households holding land remained same in the 10 year period. Both in 1998 and 2008, higher percentage of migrant households hold land. It may appear that there does not exist much difference between migrants and non migrants. But this information is binary in nature. There may be inequality in the quantum of land owned by migrant and non migrant households. One way to have an idea about it is to compare the mean land holding of migrant/non migrant households. Mean land holding of migrant and non migrant households were 54 and 45 cents in 2008.The corresponding figures for 1998 were 72 and 63 cents. Thus even though the average land holding declined for both the groups, but gap between mean land holding of migrant and non migrant households remained same in the 10 year period. On an average a migrant household owned 9 cents more land than a non migrant households in both 1998 and 2008.

As said in the case of consumption expenditure, comparatively higher mean land holding of migrant households will not tell much about distribution. To understand the same, let us see how land holding is distributed between migrant and non migrant households in 1998 and 2008.The following table shows percentage distribution of land ownership by status of migration.

Table 3.3 - Distribution of land holding between migrant/nonmigrant households

1	2	3	4	5
Land holding (cents)	m98	nm98	m08	nm08
0	5.02	7.06	1.74	3.55
1 to 5	6.48	9.30	7.31	11.95
5 to 10	13.11	16.09	15.22	18.58
10 to 25	27.02	27.16	33.59	30.79
25 to 50	16.44	13.74	16.76	13.09
50 to 100	13.84	10.66	11.02	9.57
100 to 500	16.44	14.51	13.17	11.49
500 to 1000	1.30	1.25	0.91	0.79
1000 to 2000	0.27	0.23	0.26	0.16
above 2000	0.08	0.08	0.02	0.03
Total	100.00	100.0	100.00	100.0

Table 3.3 reveals that compared to migrant households, more non migrant households own land up to 10 cents. This domination of non migrant households increased in the 10 year period. Compared to non migrant households, more migrant households own more than 10 cents. This domination of migrant households also increased in the 10 year period. Thus there are more migrant households among those households who own more than 10 cents of land. There are more non migrant households among those households who own up to 10 cents of land. Thus migrant households are having a higher share of land ownership in Kerala. In the 10 year period, the share of migrants in total land ownership increased while that of nm households declined. This dominance of migrant households gives the impression that there is inequality in landholding between (migrant/non migrant) households. At the same time during 1998 – 2008, percentage of both migrant and non migrant households belonging to ‘landless’ class declined by almost the same standards.

When one compares the position of (migrant/non migrant) households in 1998 and 2008, it can be observed that compared to 1998 the percentage of migrant households holding more than 25 cents of land declined. This trend is same for migrant households also. But there is an increase in the percentage of (migrant/non migrant) households who own 5-25 cents of land in the 10 year period. This increase is more for migrants than non migrants. At the same time the increase in percentage of households holding up to 5 cents of land is more for nm. Thus there is rise in fragmentation of land in the 10 year period. And larger share of these fragmented land holding came into the hands of migrants than non migrants .

3.2.2.2 . Ownership of house

In 1998, 77 percent of migrant households and 72 percentage of nm households owned a house. In 2008, 98 percentage of migrant households and 96 percentage of nm households own a house. Thus there is improvement in overall housing condition in the 10 year period. Compared to nonmigrant households, more migrant households continue to own a house in the 10 year period. But the gap between percentages of migrant/non migrant households owning a house declined in the 10 year period. Thus house ownership as a SOLI show that inequality in house ownership between migrant/non migrant is declining.

3.2.2.3 . Housing Quality

Even though house ownership as a standard of living indicator shows that inequality in house ownership between migrant/non migrant is declining, there may be inequality between migrant/non migrant households. KMS has information about quality of housing. KMS classified houses in Kerala using the following criterion. Houses with 2 bed rooms with attached bathrooms, concrete roof and Mosaic floor are classified as 'Very good'. Houses with 1 bed room, brick and cement walls and concrete or tile roof are

classified as 'Good'. Houses with brick walls, cement floor, tin or asbestos roof are classified as 'Poor'. And Houses with Mud walls, Mud floors & Thatched roof are classified as 'Kutchha'. The following table show the percentage of migrant/non migrant households occupying the aforesaid house types in 1998 and 2008 .

Table 3.4 - Type of house in which the households is living

1	2	3	4	5
House Type	Migrant 1998	Nonmigrant 1998	Migrant 2008	Nonmigrant 2008
Luxury	1.90	1.30	6.30	2.60
Very Good	27.20	16.60	30.90	20.60
Good	59.90	54.60	53.00	52.30
Poor	11.00	16.90	8.20	20.70
Kutchha	6.10	10.60	1.60	3.80
	100.00	100.00	100.00	100.00

From columns 2 to 5, the following conclusions can be drawn

Compared to non migrant households ,migrant households dwell in better quality houses. In both 1998 and 2008,compared to non migrant households more migrant households dwell in luxury and very good houses.Compared to 1998,the gap between percentage of migrant/non migrant households living in luxury and verygood houses increased in 2008.But this gap declined for good houses in the 10 year period.Compared to migrants more nm households own poor houses in 1998 and 2008.The gap between percentage of nm/m households dwelling in poor households increased in the 10 year period. Compared to migrants more nm households own kutchha houses in 1998 and 2008.But the gap between percentage of nm/m households dwelling in kutchha households remained same in the 10 year period. Thus there is dominance of migrant households in those households who own better quality houses in 1998 and 2008.Thus the profile of housing condition reveal that the distribution of households according to quality of housing is becoming unfavorable to non migrants. There is inequality in housing quality between migrant/nonmigrant households. If we compare the performance of migrant/non migrant households in the 10 year period, we can see that housing quality of both migrant/non migrant households improved in the 10 year period. But in relative terms, migrants are better than non migrants. The percentage of households dwelling in all the types of houses except Kutchha increased for nm in the 10 year period. For migrants, the percentage of households dwelling in all types of houses except luxury and Very good fell

in the 10 year period. Thus migration is causing inequalities in housing conditions between migrant/non migrant s in a peculiar way. There is high concentration of migrants in those households dwelling in high quality houses.

3.2.2.4 . Electrification of houses.

In 1998 82 percentage of migrant households and 70 percentage of non migrant households were electrified. The respective figures were 99 and 94 percentage in 2008. In 2008, thus there is improvement in electrification of both migrant/nonmigrant households. Still in both 1998 and 2008, higher percentage of migrant households are electrified in comparison to non migrant households. Thus migration is causing some disparities in electrification of migrant/nonmigrant households. But compared to 1998 the gap between percentage of electrified houses among migrant and non migrant households has fallen in 2008 .

3.2.2.5 . Cooking fuel used by households

Table 3.5 - Cooking fuel used by households

Fuel type	m98	nm98	m08	nm08
Wood	67.70	74.70	56.40	66.80
Electricity	0.20	0.10	0.40	0.50
Kerosene	2.50	2.50	0.20	0.40
LPG	26.60	18.10	42.80	32.10
Other fuels	0.00	0.10	0.10	0.20

Table 3.5 shows that majority of households continue to use wood as the cooking fuel even though percentage of households using the same declined in the 10 year period. In 2008, compared to non migrants, less migrant households use wood, Kerosene and electricity as their cooking fuel. But compared to non migrants less migrant households use wood, kerosene and electricity as their cooking fuel. Comparing this result with 1998 situation shows that in 2008, the extent by which non migrant households dominate migrants in the percentage of households using wood increased in the 10 year period. Similarly the extent by which migrant dominate non migrant households in percentage of households using LPG increased in the 10 year period. Comparing migrant household's performance in 1998 and 2008 showed that more migrant households use LPG and less migrant households used wood as their cooking fuel. Kerosene lost whatever importance it had as a cooking fuel in the 10 year period. It was used to cook by 2.5 percentage of both migrant/non migrant households in 1998. But in 2008 it is

used only by 0.4 percentage of nm and 0.2 percentage of migrants. Here also, fewer migrants used kerosene for cooking. Even though electricity is used only by a very small percentage of households for cooking, the gap between percentages of migrant/non migrant households using electricity remained same in the 10 year period. Thus compared to non migrants, migrants continue to use superior fuels for cooking. Thus fuel use pattern is turning unfavorable to non migrants, adding to inequalities between migrant/non migrants.

3.2.2.6 . Possession of assets and consumer durables

The following table shows the percentage of migrant/non migrant households possessing some assets/durables in 1998 and 2008.

Table 3.6 - Possession of assets/consumer durables

	M98	NM98	M08	NM08
Motorcar	3.60	2.50	10.7	5.50
Taxi/truck/lorry	2.40	2.00	2.40	1.80
Motor cycle/scooter	11.50	9.10	28.9	20.00
Land Phone	21.80	15.00	75.3	49.10
Television	47.00	37.80	87.7	76.50
Refrigerator	29.90	19.30	53.2	26.00
Land	94.95	93.02	98.3	96.40
House	77.00	71.50	98.0	96.00

Table 3.6 shows that compared to non migrant households, higher percentage of migrant households have the assets/durables under consideration in both 1998 and 2008. The gap between percentage of migrant and non migrant households having an asset/durable widened in 10 year period. However this gap is not same for all assets/durables. In 1998 the gap was highest for Television followed by Refrigerator and Land Phone. In 2008 the gap was highest for Refrigerator followed by Land Phone and two wheeler. Even though a higher percentage of both migrant and non migrant households poses all the assets/durables in 2008 compared to 1998, this improvement over the 10 year period is more for migrant households; except for possession of Television where the migrant/non migrant difference is not very substantial. In overall terms there are disparities among migrant/non migrant households in possession of

assets/durables, with distribution of ownership of asset/durables being in favour of migrant households. Thus there are signs of inequality between migrant/non migrant households in possession of assets and consumer durables also.

Thus the aforesaid analysis proved that migrant households have a higher standard of living than non migrant households. In the case of indicators like land holding, the distribution is clearly in favor of migrant households. Thus there are reasons to suspect a positive role for migration in Kerala's inequality.

3.3 .Profile of migration: evidence from the KMS

3.3.1 .Distribution of different types of migrant households:

Table 3.7 shows the different types of migrant households as a percentage of total number of migrant households. This is represented as 1998p and 2008p in Table 3.7. The absolute numbers of different types of migrant households are shown as 1998n and 2008n. From the table one can see that the share of emigrant (EMI) and return emigrant households in total number of migrant households increased with more increase for EMI households in the 10 year period. But the share of emigrant (EMI) and return emigrant households in total number of migrant households declined in the 10 year period with more decline for return out-migrant households. Thus the share of households with internal migrants in total number of households with migrants is declining. But the share of international migrants in total number of households with migrants is increasing. Thus household's level analysis revealed a declining trend of internal migration and an increasing trend of international migration.

Table 3.7 - Distribution of different types of migrant households

	1998p	2008p	1998n	2008n
EMI	40.62	55.97	1561	2702
OMI	16.63	14.65	639	792
REM	21.62	29.38	831	1279
ROM	21.13	11.73	812	634
Total	100.00	100.00	3843	5407

Table 3.8 - Distribution of different types of migrants (individuals)

	1998p	2008p	1998n	2008n
EMI	35.34	50.77	2099	12704
REM	20.40	11.74	1212	6462
OMI	19.33	25.82	1148	2939
ROM	24.93	11.66	1481	2919
Total	100.00	100.00	5940	25024

Table 3.8 shows the share of different types of migrants in the total number of migrants. This is represented by 1998p and 2008p which show the percentage share of different types of migrants in the total number of migrants in 1998 and 2008. Except for return out migrants, the share of all types of migrants in the total number of migrant individuals increased in the 10 year period. But the magnitude is more for international than internal migration. This decline in growth of internal migration and increase in international migration fall in line with analysis done at households' level.

3.3.2 .Duration of migration

Table 3.9 – Duration of migration

	1998	2008
0-10	80.34	70.20
10-20	18.94	21.03
20-30	0.63	7.37
30-40	0.05	1.22
40-50	0.00	0.15
50-60	0.05	0.02
Total	100.00	100.00

Table 3.9 shows the distribution of duration of migration. It show the percentage of migrants who moved out of their place of residence for a range of years in both 1998 and 2008. For example, in 1998, 80 percentage of migrants are in the migration process for up to 10 years. Table 3.9 show that the duration of migration is increasing in Kerala. In 1998, the number of migrants who were in the process for up to 10 years was 80 percent. In 2008 this figure declined to 70 percent. At the same time the percentage of migrants who were in migration process for more than 10 years is increasing. It may be the case that

staying more and more years away from home becomes essential to have some substantial return from migration.

3.3.3 .District of origin of migrants

Table 3.10 – Share of Migrants by District of Origin

District	1998	2008
Thiruvananthapuram	10.76	13.25
Kollam	8.85	8.64
Pathanamthitta	7.74	6.92
Alappuzha	9.26	7.35
Kottayam	3.75	4.87
Idukki	0.78	0.31
Ernakulam	6.08	5.98
Thrisur	14.84	13.26
Palakkad	9.23	12.52
Malappuram	12.55	12.38
Kozhikode	6.81	6.77
Wayanad	0.82	0.74
Kannur	5.24	4.25
Kasaragod	3.28	4.76
Total	100.00	100.00

Table 3.10 shows that in 1998 Thrisur sent largest number of migrants followed by Malappuram. In 2008, Thiruvananthapuram and Thrisur sent largest number of migrants followed by Malappuram and Palakkad. Among all districts Idukki sent least number of migrants in both 1998 and 2008. Wayanad also sent very less number of migrants but Wayanad sent more migrants than Idukki and occupies second lowest position. This trend remains same for both 1998 and 2008. Compared to 1998, Thiruvananthapuram, Kottayam, Thrisur and Palakkad sent less migrants in 2008. But Pathanamthitta, Alappuzha, Ernakulam, Idukki, Wayanad Kannur and Kasargod sent more migrants in 2008. There is not much change in magnitude of migration from Kollam, Malappuram and Kozhikode.

3.3.4 .Major destination of emigrants

Table 3.11 – Major Destinations of emigrants

	1998	2008
United Arab Emirates	35.00	53.40
Saudi Arabia	37.50	23.00
Oman	10.20	7.60
Kuwait	5.00	5.90
Bahrain	5.50	4.60
Qatar	4.60	5.50
USA	2.20	4.70
Total	100.00	100.00

KMS has data only on the destination of emigrants and not out migrants. Table 3.11 shows the percentage of emigrants from Kerala moving to various countries. In 2008, forty two percentage of emigrants from Kerala were to United Arab Emirates (UAE), making it the top destination for emigrants from Kerala. Saudi Arabia lost the number one position it enjoyed in 1998 to UAE in 2008. In the 10 year period there is increase in emigration to UAE, Kuwait, Qatar and USA. At the same time, emigration to Saudi Arabia, Oman and Bahrain declined.

3.3.5 . Sectors of Employment of Migrants

Table 3.12 – Sectors in which Migrants are employed

Sector	1998	2008
State/Central government	37.30	8.00
Semi-Government aided	0.90	1.70
Private sector	33.30	53.90
Non agricultural Labour	18.80	26.00
Agricultural Labour	0.50	0.20
Job Seekers	9.20	7.00
Self employment	7.40	3.20
Total	100.00	100.00

In 1998, majority of migrants worked in Government sector. About 37 percent of migrants were working in government sector declined to 8 percent. Decline in opportunities in government sector might have prompted migrants to go elsewhere leading to rise in semi-government/private employers and non agricultural laborers among migrants. But there is reduction in self employment/job seeking at destination.. This shift from government to non government sectors may lead to fall in worker welfare if labour rights are not strictly enforced in private sector.

3.4 .ROLE OF MIGRATION IN INEQUALITY

The primary analysis of household characteristics gives some hints about the role of migration in inequality, Hence the rationale of applying the technique of inequality decomposition described in Chapter 2 to SOLI developed in the same chapter But before that it is important to see if the dominant methodology used in migration-inequality studies can be applied here i.e. analysis using income or its proxies.

3.4.1 .Income Based Inequality

A review of literature on migration- inequality link revealed that decomposition of Gini coefficient of income by source is the dominant method adopted to explore the migration inequality link. As far as the information about income of migrant and non Migrant Households, no data is available in KMS. However data on household consumer expenditure, saving and investment are available in 2008 round of KMS. Thus an analysis using consumer expenditure will give only a static picture. Still an effort has been made to make use of the available data as it can clearly reveal the direction of the impact of migration on inequality.

Analysis of basic descriptive statistics of TCE of Households show that average consumer expenditure of migrant households is 6189.9 Rs which is higher than non migrant household by 1159Rs.

Following the method suggested by Lerman and Yitzhaki (1985) the Gini coefficient for total income, G, can be represented as

$$G = \sum_{k=1}^K S_k G_k R_k$$

where

S_k = share of source k in total income

G_k = the source Gini

R_k = Gini correlation of income from source k with the distribution of total income

Stark, Taylor and Yitzhaki (1986) following Lerman and Yitzhaki (1985) note that the influence of any income component upon total income inequality depends on:

1. How important the income source is with respect to total income (S_k)
2. How equally or unequally distributed the income source is (G_k)
3. How the income source and the distribution of total income are correlated (R_k).

This logic is used to derive the method of Gini decomposition by using this method of Gini decomposition we can estimate the effect that 1 percentage change in income from source k will have on total income inequality. This effect is given by

$$MI = ((S_k * G_k * R_k) / G) - S_k \quad (1)$$

Where MI refers to marginal impact of change in an income source on inequality.

This method is used by Stark, Taylor and Yitzhaki (1986) to understand the role of remittance in inequality. The same method has been applied making use of the available data from Kerala Migration Survey (KMS hereafter). Since data on income is not directly available, data on Household consumer expenditure, Saving and Investment is added up to have a proxy measure of income, referred to as income itself in this dissertation. This income is subjected to Gini decomposition technique of Stark, Taylor and Yitzhaki (1986) to have an idea about role of migration and remittances in inequality. The results are shown as a table.

Table 3.13 - Inequality decomposition by source

1	2	3	4	5	6
Income source	S_k	G_k	R_k	Share	Impact
Remittance income	0.1539	0.8987	0.4944	0.1544	0.06 percent
Other Income	0.8461	0.5213	0.8487	0.8456	-0.06 percent

Column 5 of table 3.13 shows the share of each income source on total income. Column 6 of table shows the effect that a 1 percentage change in income from source k will have on total income inequality.

As shown in the table, a 1 percentage raise in remittance will rise inequality in consumption expenditure by 0.06 percentage. Thus remittances does seem to have some effect on increasing inequality, but only by a small measure. Other income than remittances seem to have a much larger role to play in widening inequality between migrants and non-migrants.

This method is used by researchers worldwide due to its intuitive interpretability. We can ascertain the marginal impact of remittances on inequality. But unfortunately data on indicators help build a proxy for income are available only in 2008 round of KMS that too for only 3000 households. Thus an analysis using consumer expenditure gives a static picture. For the same reason conclusion of this analysis based on income proxies.

3.4.2 .Analysis using assets.

It is accepted that assets can be used to measure SOL when information on income or its proxies are not available. An analysis of asset position of migrant/nonmigrant done in previous pages gives the impression that there is inequality between SOL of migrant/nonmigrant households. But trends in this individual SOLI's cannot be used to ascertain the role of migration in inequality. But since a disaggregated analysis gives results in favour of a positive role of migration in inequalities, the asset based standard of living Index (SOLI hereafter) built in Chapter 2 will be used to analyze the role of migration in inequality. This SOLI scores were computed for all households (migrant/non migrant) in 1998 and 2008 with values ranging from 0 to 100. SOLI scores to understand and ascertain the role of migration in inequality.is used in this section.

Making use of the classification of migrant households made in KMS, the following table compares the mean value of asset index for migrants, on migrants and different types of migrant households for both 1998 and 2008.

Table 3.14 - Mean value of asset index for migrant, non migrant and different types of migrant Households

Household Type	Mean Score of Asset Index 1998	Mean Score of Asset Index 2008
Emigrant	37.09	53.42
Return Emigrant	35.51	50.04
Out Migrant	29.29	49.27
Return Out-migrant	29.97	47.08
Non Migrant	23.03	40.16
Migrant	34.21	51.27
All households	27.34	44.16

Table 3.14 shows that all categories of households improved their SOL in the past decade. Still migrant households continue to have a higher SOL than non migrants in both 1998 and 2008. But the improvement made by different categories of migrants in the 10 year period differ. The different types of migrant households can be ranked according to SOLI in descending order as EMI-REM-OMI-ROM-Non migrant. They also differ in the improvement made in SOL in the 10 year period. Difference does exist between different types of migrant but all of the groups have average asset score above non migrant households. Thus migrants are not a homogenous group. Gap between migrant group with lowest asset score (Out Migrant) and non migrant households widened in the 10 year period. But surprisingly the gap between migrant and non migrant remain the same. But as in the case of individual SOLI's, mean values cannot give us an idea about inequality, for that a decile distribution of SOLI is computed first. This is given in the following table. (Table 3.15)

Table 3.15 – Decile distribution of asset index by migrant and non migrant households (1998 and 2008)

	m98	nm98	m08	nm08
0-10	8.79	22.82	0.80	4.80
Oct-20	25.15	36.89	4.80	13.60
20-30	16.66	13.55	11.50	20.80
30-40	16.23	10.59	12.10	13.40
40-50	9.03	5.37	20.30	16.00
50-60	7.07	3.39	15.60	12.30
60-70	9.35	4.34	12.20	7.40
70-80	5.94	2.29	17.20	8.90
80-90	1.64	0.55	4.40	2.30
90-100	0.16	0.19	1.20	0.70
Total	100.00	100.00	100.00	100.00

This table shows that both migrants and non migrants improved their position in the 10 year period. Migrants and non migrants continue to dominate (i.e more percentage of migrant and non migrant households respectively belong to) the higher and lower deciles respectively. During 1998-2008, fall in percentage of households in lower deciles is higher for migrant households. When one compares migrant and non migrant households separately for 1998 and 2008, he can see that compared to 1998, dominance of migrant households in 2008 is mainly confined to higher deciles. If the gap between percentage of migrant/nonmigrant belonging to a particular decile of SOLI, is compared it can be seen that compared to

1998 the presence of migrant/nonmigrant in first 2 deciles fell in the 10 year period, but the fall is more for nm. In third and fourth decile the presence of migrants fell and nm s rised in the 10 year period. In 5th, 6th and 7th deciles, there are more migrants than nm s and the gap between percentage of migrant/nonmigrant present in the decile remained more or les same in the 10 year period. Like 5th, 6th and Seventh deciles migrants dominate in 8th, 9th and Tenth deciles are more importantly the dominance of migrants increased in the 10 year period.

3.4.2.1 .Household characteristics and Asset Based Inequality

Analysis in the preceeding pages reveal that migrant households have a better standard of living than nm households. This disparity is translated into inequality between migrant/nonmigrant for asset based SOLI and some individual SOLI's. But this results alone will not help to confirm that migration has a role in inequalities between migrant/nm households. It may be the case that various other inequalities among households are reappearing as inequalities among migrant/nonmigrant households. This possibility demands the identification of other factors that are causing inequalities among households. The information about other socio economic characteristics of the households available with the 1998 and 2008 rounds of KMS is used to see if SOL of households (represented by SOLI) vary with those characteristics

Information is available about the following characteristics in 1998 and 2008 round of KMS.

1. Sex of head of Household - In 2008 a Male headed household (households hereafter) have 45.22 as the average value of the asset index. While it is only 41.23 for a Female headed household. Corresponding figures for 1998 were 27.54 and 26.75. Thus gender based gap in SOLI widened in the 10 years.
2. Caste and migration - Based on information about religion and cast of members of households. The households are classified into Scheduled Cast/Scheduled tribes (SC/ST), Other Backward Classes (OBC) and GENERAL (households who does not belong to SC/ST/OBC). The following table shows the mean value of asset index for these three socio economic groups.

Table 3.16 - SOLI scores for Socio economic groups.

	Migrant 2008	Non migrant 2008	Migrant 1998	Non migrant 1998
GENERAL	55.26	45.26	39.77	27.56
OBC	49.49	39.61	31.89	22.84
SC/ST	38.43	27.92	18.02	11.90

In 1998-2008, the relative positions of SC/ST, OBC and GENERAL category households remain same for both migrant and non migrant households. This indicates that migration reinforces existing inter group inequalities. But the disparity between migrant/nonmigrant households (migrant being better than nm) behaved differently for 3 socio economic groups in the 10 year period. While the disparity fell for GENERAL, it increased for OBC and SC/ST. But the improvement in SOLI for migrant/nonmigrant in the 10 year period is almost the same for all the 3 socio economic groups.

3.4.2.1.1 . District wise variation of SOLI scores.

SOLI scores may vary according to region in which households belong. If a household belong to socio economic backward region; it has more chance to have a lower SOLI scores. To have a regional analysis, one has to see how SOLI scores vary across different districts of Kerala. The following table shows the SOLI values for different districts in 1998 and 2008. Column 4 of the table is named as 'gap' it is the difference between SOLI scores of 2008 and 1998 for various districts.

Table 3.17 – District wise variation of SOLI scores in Kerala

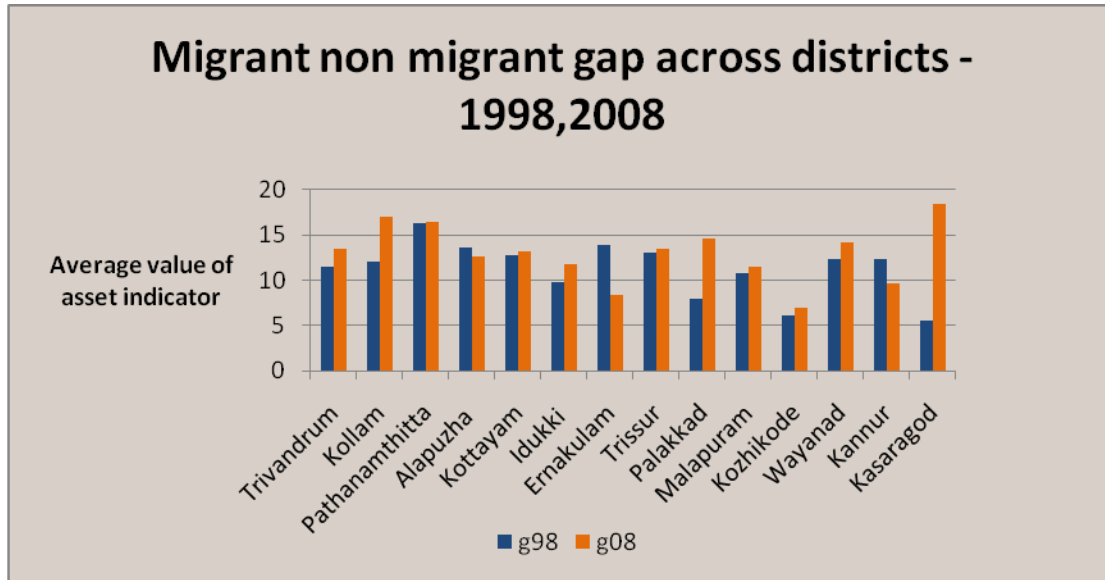
District	2008	1998	gap
Trivandrum	46.67	25.12	21.55
Kollam	46.11	19.59	26.52
Pathanamthitta	40.65	39.84	0.80
Alapuzha	44.25	26.53	17.72
Kottayam	45.10	23.47	21.62
Idukki	50.78	16.75	34.04
Ernakulam	55.97	35.62	20.35
Trisur	45.51	28.78	16.73
Palakkad	42.60	24.41	18.19
Malapuram	39.52	22.95	16.57
Kozhikode	42.56	29.2	13.36
Wayanad	36.43	26.24	10.19
Kannur	40.54	34.39	6.146
Kasaragod	39.18	27.53	11.65

Scores of indices varied across districts but the variation was not very much, barring a few. However, following findings are interesting. First, despite the domination in number of migrants, Malappuram is not dominating in average value of SOLI. Second, barring Pathanamthitta and Kannur almost all districts improved their position in the 10 year period. The improvement was highest for Idukki and lowest for Pathanamthitta. Pathanamthitta seems to attain a fairly saturated level of standard of living in 1998 itself, may be due to its pioneering role in migration (Zachariah, Mathew and Rajan 2003).

3.4.2.1.2 . Migrant non migrant gap – District wise analysis.

Migrant non migrant gap means the difference between average SOLI score of migrant and non migrant households. The following Figure show its' trend for 1998 (represented as g98) and 2008 (g08).

Figure 3.1 – Migrant – Non migrant gap across districts



Gap between migrant and non migrant households is positive all over Kerala, but the magnitude of the gap varies across different districts of Kerala .In 1998 the gap was highest in Pathanamthitta but in 2008 it lost it’s position to Kasaragod.Compared to 1998 ,migrant/nonmigrant gap in 2008 fell in Alappuzha and Kannur;remained almost unchanged in Pathanamthitta and Ernakulam.It increased only by a slight amount in Kottayam,Trissur,Malapuram;while considerable increase was felt in Trivandrum,Kollam, and Kasaragod.

3.4.2.1.3. Household Size and SOLI scores

Household sizes do not bear any influence on asset score. Barring a few outliers, average value of index seems to remain unchanged with change in household size.

3.4.2.1.4. SOLI scores and sex of head of households

Table 3.18 – SOLI scores by sex of head of households (1998, 2008)

Sex of head of household	Migrant	Non migrant
Male 2008	51.7	41.95
Female 2008	50.33	34.39
Male 1998	34.28	23.84
Female 1998	33.63	19.9

Table 3.18 show the mean SOLI score of male and female headed households in 1998 and 2008 (Represented in column 1 as Male/Female 1998 and 2008). Male headed households have higher SOLI score than female headed households. But this difference is reduced by migration in both 1998 and 2008. Gap between migrant/nonmigrant is higher for female headed households in both 1998 and 2008. Thus migration plays some role in reducing gender based inequality in household asset ownership. However this effect may not be due to migration alone. Hence the analysis to prove how SOLI score vary by district and sex of household head. Table 3.19 shows the mean SOLI by head of households across districts of Kerala (1998, 2008).

Table 3.19 – Mean SOLI by head of households across districts of Kerala (1998, 2008)

District	Male Head 2008	Female Head 2008	Male Head 1998	Female Head 1998
Trivandrum	48.38	42.59	25.86	23.23
Kollam	47.20	43.11	19.17	20.67
Pathanamthitta	40.15	42.31	39.10	42.43
Alapuzha	44.74	42.9	27.15	23.94
Kottayam	45.52	43.24	24.82	16.82
Idukki	51.26	48.50	16.63	17.72
Ernakulam	57.28	49.91	36.27	32.69
Trisur	46.50	43.47	28.51	29.49
Palakkad	44.49	38.34	24.22	24.90
Malapuram	39.90	38.66	22.29	24.43
Kozhikode	43.83	39.82	29.78	27.71
Wayanad	37.50	33.04	27.69	20.23
Kannur	40.76	39.93	34.14	34.89
Kasaragod	40.31	36.97	27.82	26.97

Table 3.19 show the mean SOLI scores of male/female headed households in 1998 and 2008.

Female headed households have lower average asset score than male headed households. But in 1998 some districts (Kollam, Pathanamthitta, Idukki, Trisur, Palakkad, Malapuram) show the opposite trend of course the difference is not very high except for Pathanamthitta. But in 2008 only Pathanamthitta is belonging to above mentioned category, while the margin of male dominance is less in Kannur and Malapuram. Pathanamthitta had very high rate of migration in 1998 (Zachariah, Mathew and Rajan 2003) this might have helped female headed households to have mean SOLI greater than male headed households in 2008. Malapuram and Kannur are districts having very high rate of migration in more recent KMS rounds (Zachariah and Rajan 2010, 2012) this might have caused less dominance of male headed households. Majority of migrant households are male headed. Thus migration does not make a households female headed. At the same time migration help female headed households to make up for their disadvantage in SOL.

3.4.2.2 .Subgroup decomposition of asset indicator using Theil Index

The above mentioned analysis revealed that there are many other factors that influence SOL other than migration. So how can one ascertain that the observed inequality between migrant and non migrant households is due to migration alone?

The dominant method used in literature on relationship between migration and inequality is inequality decomposition by source. This analysis was already performed using consumer expenditure data available in 2008.As mentioned before, such analysis is static in nature and does not allow to compare the role of migration in inequality in 1998 and 2008.So the SOLI is subjected to decomposition of Generalized Entropy (GE) measures of inequality by subgroups (migrants/non migrants)

Generalized Entropy (GE) Measures of inequality

The general formula for Generalized Entropy (GE) Measures is given by

$$GE(\alpha) = \frac{1}{\alpha(\alpha-1)} \left[\frac{1}{N} \sum_{i=1}^N \left(\frac{y_i}{\bar{y}} \right)^\alpha - 1 \right]$$

Where y is the mean income per person (or expenditure per capita). The values of GE measures vary between zero and infinity, with zero representing an equal distribution and higher values representing higher levels of inequality. The parameter α in the GE class represents the weight given to distances between incomes at different parts of the income distribution, and can take any real value. For lower values of α , GE is more sensitive to changes in the lower tail of the distribution, and for higher values GE is more sensitive to changes that affect the upper tail. The most common

Values of α used are 0, 1, and 2. GE (1) is Theil's T index, which may be written as

$$T = \sum_{p=1}^n \left\{ \left(\frac{1}{n} \right) * \left(\frac{y_p}{\mu_y} \right) * \ln \left(\frac{y_p}{\mu_y} \right) \right\}$$

where n is the number of individuals in the population, y_p is the income of the person indexed by p , and μ_y is the population's average income. (Needles to say,GE measures can be calculated for variables other than income too).This formula of Theil's T Statistic generates an element, or a contribution, for each individual or group in the analysis which weights the data point's size (in terms of population share) and weirdness (in terms of proportional distance from the mean). When individual data is available, each

individual has an identical population share (1/N), so each individual's Theil element is determined by his or her proportional distance from the mean. This formula emphasizes the following points. (1) The summation sign reinforces the idea that each person will contribute a Theil element. (2) y_p/μ_y is the proportion of the individual's income to average income. (3) The natural logarithm of y_p/μ_y determines whether the element will be positive ($y_p/\mu_y > 1$); negative ($y_p/\mu_y < 1$); or zero ($y_p/\mu_y = 1$).

Theil's L - If value of α in GE formula is 0 then we can have a measure called GE(0), also known as Theil's L, and sometimes referred to as the mean log deviation measure, is given by

$$GE(0) = \frac{1}{N} \sum_{i=1}^N \ln \left(\frac{\bar{y}}{y_i} \right)$$

The properties of Theil index, which belongs to the class of Generalized Entropy (GE) methods of inequality is already discussed. Theil index can be decomposed into within and between group components. This has to be explained in some detail. Let us take the issue of migration's role in inequality. Till now the approach to the problem by dividing the population into migrant and non migrant households. So the two groups are migrant and non migrant households. Now Theil index decomposition technique will generate two elements. First one is within group component of inequality. Second one is between group components.

The statistical technique of Theil index decomposition decompose the total inequality (measured using Theil index) into two components

1. Within group inequality – It represents the contribution of inequality within group to total inequality. When the case of migrant and non migrant households is taken, both are not homogenous groups (already proved). Households in each of these groups have diverse socio economic characteristics which cause some inequalities within the group. This inequality will be reflected in income/consumption pattern/asset holding of the households. This inequality will definitely contribute to total inequality and is represented as 'Within group inequality'.
2. Between group inequality - Different socio economic groups differ in their standard of living. This difference creates inequality between different groups known as between group inequality.

To decompose Theil's T index (that is, GE (1)), let Y be the total income of all N individuals in the sample, and $y = Y/N$ be mean income. Likewise, Y_j is the total income of a subgroup (for example, the urban population) with N_j members, and $y_j = Y_j/N_j$ is the mean income of this subgroup. Using T to represent GE (1),

$$\begin{aligned}
 T &= \sum_{i=1}^N \frac{y_i}{N\bar{y}} \ln\left(\frac{y_i N}{\bar{y} N}\right) \\
 &= \sum_{i=1}^N \frac{y_i}{Y} \ln\left(\frac{y_i N}{Y}\right) \\
 &= \sum_j \left(\frac{Y_j}{Y}\right) T_j + \sum_j \left(\frac{Y_j}{Y}\right) \ln\left(\frac{Y_j/Y}{N_j/N}\right)
 \end{aligned}
 \tag{1}$$

where T_j is the value of GE (1) for subgroup j . This Equation separates the inequality measure into two components, the first of which represents within group inequality while the second term measures the between group inequality.

A similar decomposition is possible for GE (0); this breakdown of Theil's L is given by

$$L = \sum_{i=1}^N \frac{1}{N} \ln\left(\frac{\bar{y}}{Y_i}\right) = \sum_j \left(\frac{N_j}{N}\right) L_j + \sum_j \frac{N_j}{N} \ln\left(\frac{\bar{y}}{\bar{y}_j}\right)$$

When confronted with information on a welfare measure for two time points, one has to identify the components of the change in inequality. Defining $n_j = N_j/N$, which is the proportion of those in the sample who are in the j th subgroup, and adding the time subscripts 1 (for initial period) and 2 (for the second period), where appropriate, for Theil's L

$$\Delta L \approx \sum_j n_j \left[\ln\left(\frac{\bar{y}_{j,2}}{\bar{y}_{j,1}}\right) - \ln\left(\frac{\bar{y}_{j,2}}{\bar{y}_{j,1}}\right) \right] + \sum_j \left[L_j + \ln\left(\frac{\bar{y}}{\bar{y}_j}\right) \right] \Delta n_j + \sum_j n_j \Delta L_j
 \tag{2}$$

This decomposition is accurate if the changes are relatively small, and if average values across the two periods (for example, of n_j or L_j) are used. The first term on the right-hand side measures the effect on inequality of changes in relative mean incomes; if the income of a small, rich group grows particularly rapidly, for instance, greater inequality is likely to result. The second term measures the effects of shifts in population from one group to another. Finally, the third term in equation (2) measures the size of changes in within-group inequality.

To understand the role of migration in inequalities, one has to replace income using asset based SOL index. The application of Theil decomposition is not the best method to understand the role of migration in inequality. It can only give an idea about inequality within and between groups. But given the non availability of data on proxies of income in a manner that facilitates comparison of role of migration in inequality over a reasonable period; this is best method available.

Table 3.20 shows the decomposition of total inequality in the scores of asset indicator among the households into between group (Migrant and Non migrant) and within group components for both 1998 and 2008. Column 2 shows total inequality of asset indicator which is represented by Theil's T (GE(1)) index. This index is decomposed into within and between components in columns 3 and 4 respectively. Column 5, 6 shows the percentage share of within and between components in total inequality.

Table 3.20 – Decomposition of Theil Index

1	2	3	4	5	6
Year	Total	Within	Between	Within Share	Between Share
1998	0.28261	0.26373	0.01888	93.32 percent	6.68 percent
2008	0.12404	0.11694	0.0071	94.28 percent	5.72 percent

Table 3.20 shows that overall inequality of asset ownership declined in the 10 year period. It is the inequality between the groups that matters more in total asset inequality. In 1998 around 93percentage of total inequality in asset based standard of living in Kerala is due to inequality among migrant households and non migrant households. Around 7percentage of of total inequality in asset based standard of living in Kerala is due to inequality between migrant and non migrant households. In 2008 around 94percentage of total inequality in asset based standard of living in Kerala is due to inequality among migrant households and non migrant households. Around 6percentage of total inequality in asset based standard of living in

Kerala is due to inequality between migrant and non migrant households. Thus inequality between migrant and non migrant do contribute to total inequality but by a small amount. More importantly migration's contribution to inequality has declined in past one decade though the decline is marginal. The migrant – non migrant does contribute positively to Kerala's inequality situation. But one fails to gather sufficient evidence to prove that the magnitude of the contribution is substantial. As mentioned before this result is based on GE (1) Theil's T measure of inequality. When Theils L was used the contribution of within group component rose to 95percentage in 1998 and 96.8percentage in 2008.

3.4.2.3 - Inequality among Migrant and Non migrants

Having understood the immense importance of within the group inequality in Kerala's asset inequality; it is interesting to know it's magnitude for the two groups under consideration i.e. migrants and non migrants. The following tables show that migrants have less within the group inequality than non migrants.

Table 3.21 - Inequality among Migrant and Non migrants

Year	Migrant Gini coefficient	Non Migrant Gini coefficient	Migrant Theil index	Non Migrant Theil index
1998	0.35	0.43	0.2	0.32
2008	0.22	0.3	0.08	0.14

3.4.3 - Parallel between analysis based on income proxies and assets. In order to understand and ascertain the role of migration in Kerala's inequality both income proxies and assets have been used in this study.. Even though applied methodologies differ in both ways, both methods revealed that migrant households are significantly better than nm households and distribution of various indicators of standard of living is un favorable to non migrant households. But statistical techniques failed to prove that migration contribute by a significant magnitude to Kerala's inequalities even though its contribution is positive. Even though income based analysis is prominent in migration-inequality studies, constrains of data availability forced the researcher to rely on asset-based analysis. This parallel drawn in conclusions of both methods is giving some validation to the asset-based analysis.

SUMMARY

This chapter is an attempt to analyze the role of migration in inequality. To see if there is some disparity between migrant and non migrant households; a disaggregated analysis of living conditions of migrant and non migrant households is done.. Since this analysis give signals of migration playing some role in inequality, the study uses inequality decomposition techniques to understand role of migration in total inequality. The analysis revealed that. Migration has a role in inequality but its contribution is not very high. It is inequality within groups that matter in Kerala. Migration is reducing gender based inequality in household's asset holding but reinforces caste based inequality in household's asset holding. Migrants are not a homogenous group, there is inequality among migrants but the inequality among migrants is less than inequality among non migrant households.

However the analysis presented in this chapter is only static. It merely compare migrant and non migrant households in two periods of time. If the behavior of same households can be tracked, dynamics of migration process and its relation with inequality can be taken in greater detail. Fortunately with a panel data of those households that were surveyed in both 1998 and 2008 rounds of KMS, such an analysis is possible. This will be taken up in the next chapter.

Chapter 4

Dynamics of migration – inequality relationship in Kerala

4.1 Introduction

This study is examining if the unequal distribution of remittances is creating inequalities in the standard of living between migrant and non migrant households. The analysis in previous chapter revealed that the comparatively higher standard of living of migrants is creating inequalities between migrant and non migrant households. This analysis compared the role of migration in inequality for 1998 and 2008 using data from 1998 and 2008 rounds of KMS. But households surveyed in 1998 and 2008 are not the same. In that case what we have done in previous chapter is a static comparison of migration's role in inequality in two periods. However, an important dimension of inequality is its dynamic aspect. That is, what happens to relative inequality during mobility? An analysis using data on same household will also give better idea about the process by which migration is creating inequalities. But data on same households who were covered in different rounds of socio economic surveys are often rare. But here again KMS has an advantage. KMS has a unique data set of those households who happened to be surveyed for both 1998 and 2008 rounds. This panel data set can be used to discover the dynamics of migration – inequality relationship in Kerala.

An analysis of the standard of living of same households of two different periods is actually an analysis of their mobility. Hence the need for understanding the concept of mobility.

4.2 . Mobility – Concepts and Measurement

Most of the mobility literature is about income mobility. But even though this literature is aimed at understanding mobility of incomes of individuals/households the concepts and theories developed in these work can be used to understand mobility in non income aspects of human life.

The term 'income mobility' is understood differently by different researchers. There are differences in opinion on different aspects of mobility. These aspects are whether the context is intergenerational or intragenerational, what the indicator of social or economic status is, and

whether the analysis is at the macro or micro level etc. (Atkinson, Bourguignon, and Morrisson (1992), Maasoumi (1998), Solon (1999), and Fields and Ok (1999a))

It seems that the definition of income mobility given by Fields (2008) is an apt one. According to him 'Income mobility' means how much income each recipient receives at two or more points of time. ('Income' refers to income from all sources while 'earnings' refers to income earned in the labour market.) Empirical mobility studies divide base and final year incomes into quintiles or deciles and calculate mobility ratios, mean upward movements, etc (ex:Fields, 2001). Other studies estimate correlation coefficients between base year and final year incomes (Atkinson, Bourguignon and Morrisson, 1992). In the intergenerational mobility literature, it is common to calculate intergenerational elasticities, that is, the coefficient obtained when the logarithm of the child's income is regressed on the logarithm of the parent's (Solon, 1999).

There are different indices and measures of mobility. The different indices measure different underlying entities.

1. The first distinction to be drawn is between measures of time independence and measures of movement.

Time independence studies ask the question - how far current income is dependant on past income? One commonly used measure of time independence is the beta coefficient calculated by regressing the log income of the child on the log income of the parent.

Movement studies tries to answer the question - 'In comparisons of incomes of the same individuals between one year and another, or of parents and children between one generation and another, how much income movement has taken place'? The various movement indices in the literature may usefully be classified into five categories or concepts

a. Positional movement (or 'quantile movement') is the movement of individuals among various positions (quintiles, deciles, centiles, or ranks) in an income distribution. An individual/household experiences positional movement if only when the individual/ household changes quintiles, deciles, centiles, or ranks when two positions are compared. (King (1983)).

b.Share movement takes place only when an individual's income rises or falls relative to the mean. Thus, an individual can experience upward or downward share movement even if his or her income in dollars remain unchanged and/or if he or she does not change position within the income distribution. Share movement in the population reflects the frequency and magnitude of these individual share changes. One attractive index of share movement in a population is the mean absolute value of share changes

c.Non-directional income movement (also called 'flux'), which measures the extent of fluctuation in individuals' incomes. For example, suppose in a two-person economy one person's income goes up by \$10,000 while another's goes down by \$10,000. If the observer only cares about an average income change of \$10,000, then he is interested in non directional income movements only. (Fields and Ok (1996; 1999b)).

d.Directionality income movement – In the above case if the observer cares not only for the amounts of the income changes but also the direction, then he is interested in directional income movements. (Fields and Ok, (1999)).

2.Mobility as an equalizer of long-term incomes – This concept of mobility consider how the income changes experienced by individuals cause the inequality of long term incomes to differ from the inequality of base year incomes.(Schumpeter (1955),Shorrocks (1978b),Atkinson, Bourguignon, and Morrisson (1992),Slemrod (1992),Krugman (1992),Jarvis and Jenkins (1998)).

In comparing countries, some countries were found to be more mobile than others with the use of some concepts of mobility and less mobile than others with the use of other concepts (OECD, 1996; 1997). In the United States measures of four concepts (time independence, positional movement, share movement, and income flux) all peaked in 1980–85 but measures of two other concepts did not. Directionality income movement exhibits a saw tooth pattern, while mobility as an equalizer of long-term incomes exhibits a peak followed by a straight line (Fields, Leary and Ok, 2002; Fields, 2005). In France, mobility differences among demographic groups have been explored by Buchinsky et al (2004). The answers to the questions 'Who has more mobility: women or men? Better or less-educated? differs; depending on mobility concept used. Coming to

gender, women in France have more time independence and positional movement but less share movement than men, but men and women had the same non-directional and directional movement in logs, and mobility as an equalizer of long term incomes. Those with the highest educational attainments have less time independence and positional movement, share movement, flux, and directional income movement in logs. In Argentina, too, measures of the six different concepts produced qualitatively different results (Puerta, 2005). Looking at changes over time, some mobility indices increased, some decreased, and some showed no clear trend. Comparing population subgroups (genders, educational levels, age ranges, regions, initial quintiles, and initial sector), some groups were found to have higher earnings mobility for some concepts and lower earnings mobility for others. No group was found to have higher mobility than others in terms of mobility concept. In both Venezuela and Mexico, the time trend of mobility was found to vary according to the notion of mobility measured (Freije 2001, Hernandez 2005).

How does the analyst decide which notion best capture the essence of ‘income mobility’ for him or her? One approach is to proceed axiomatically, that is, to say that ‘for me, mobility is such and such’ and then to see which concepts, if any, embody these axioms.

Two broad approaches to axiomatization may be found in the literature. In one approach, mobility is conceptualized in social welfare terms (Atkinson 1980, King 1983, Chakravarty, Dutta and Weymark, 1985, Dardanoni 1993, Gottschalk and Spolliator 2002, Castillo 2004 etc). In the other, a descriptive approach is used, wherein analysts specify the properties they wish income mobility concepts and measures to possess, and then proceed to deduce which indices, if any, have these properties (Cowell 1985, Fields and Ok (1996, 1999b), D’Agostino and Dardanoni 2005). The work of Shorrocks (1978a, 1978b) makes use of both of these approaches.

4.2.1 .Relative and Absolute Mobility

There is difference of opinion among authors as to what income mobility is?. For the majority of analysts, the notion of ‘income mobility’ has both absolute and relative components. For example, if all incomes double, most would judge there to be more mobility than if all incomes remain unchanged (Absolute mobility increased here as incomes of some individuals rose). But for some analysts, income mobility is relative only .Mobility contributes positively to social

welfare if and only if distribution is more equal. Thus, if all incomes rise but the percentage gains are larger at the top end of the income distribution than they are at the bottom (there is inequality in mobility), mobility is socially undesirable, in direct contradiction to the Quasi Paretian welfare judgment that an increase in some incomes with no decline in others raises social welfare.

The term 'relative mobility' is used in yet another sense, namely, to refer to positional movements. Here, an individual experiences relative mobility only if he or she changes position (quintile, decile, centile, or rank) from base year to final year. For example, Jenkins and Van Kerm (2003) break down trends in income inequality into a 'pro-poor income growth' component and an 'income mobility' component. The 'income mobility' component involves re-rankings only. Thus, for them, mobility is positional movement and nothing else. D'Agostino and Dardanoni (2005) have yet a different definition of relative mobility. According to them, relative mobility involves a change in an individual's relative standing with respect to all others, whereas absolute status is something that can be derived by looking at data regarding the individual taken in isolation.

The term 'absolute mobility' is used in three different ways in the income mobility literature. One way is to view it as gains and losses of income rather than income shares or positions. So, the concept of directional income movement and the various measures of that concept are about absolute mobility. Second way is to see 'absolute mobility' as concerned with the absolute value of income changes, (like studies of non-directional income movement, or flux). Thirdly, the term is used in the sense of translation invariance, i.e, if all initial and final incomes are increased by the same amount; the new situation has the same absolute mobility as the old one. (Fields, 2008)

Is 'income mobility' decomposable, and if so, how? Of the six income mobility concepts considered above, one involves the time independence aspect of mobility and the other five involve the movement aspect of mobility. The time independence aspect of mobility is not decomposable.

However, there have been decompositions of various movement measures. One type of decomposition is subgroup decomposability, that is, if the population is divided into J subgroups, the total income mobility in the population as a whole equals a (possibly) weighted average of

the mobility in each of the subgroups. A number of income mobility measures are subgroup decomposable; (Fields and Ok's (1996; 1999b)).

A second kind of decomposition is found in the sociology literature (for example, Bartholomew, 1982) of breaking down the movement of individuals among occupations or social classes into two component parts: (a) changes that can be attributed to the increased availability of positions in the better occupations and social classes ('structural mobility') and (b) changes that can be attributed to increased movement of individuals among occupations and social classes for a given distribution of positions among these classes ('exchange mobility').

Markandya (1982; 1984) proposes two alternative decompositions of income mobility along the lines of Bartholomew. The first one defines exchange mobility as the proportion of the change in welfare that could have been obtained if the income distribution had stayed constant through time, so structural mobility is defined as the residual welfare change. The second one defines structural mobility as the change in welfare that would have taken place if the two period transition matrix had exhibited complete immobility, in which case exchange mobility is defined as the residual. Along similar lines, Castillo (2004) shows how an index of welfare due to mobility could be decomposed into either (a) a precisely defined structural component or a residual representing exchange mobility or (b) a precisely defined exchange component and a residual representing structural mobility.

Fields and Ok (1996) show that mobility is decomposable into the sum of appropriately defined structural and exchange components. An analogous decomposition holds for a contracting economy. Along similar lines, Fields and Ok (1999b) show that their directional movement measure decomposable into social utility growth and social utility transfer components. In all of these cases, the weakness of Markandya's and Castillo's residual approaches is averted.

What are empirical issues that arise in mobility studies? Some studies on mobility give some clues on this issue. Some of them are given below.

1. Longer the observation period, the greater is the amount of mobility registered. Therefore, care should be taken not to compare, for example, two year mobility in one context with, for example, five year mobility in another context. (Atkinson, Bourguignon and Morrisson 1992).

2. Measurement error is another serious issue. There is an ample literature on mismeasurement of earnings levels but, as yet, only a very limited literature on mismeasurement of earnings changes. A task for the future is to estimate empirically the effect of measurement error on estimates of both macro mobility and micro mobility. (Deaton, 1997; Bound, Brown and Mathiowetz, 2001)

4.3 - Method of analysis

KMS has a panel data of those households who appeared in both 1998 and 2008 rounds. In the ten year period, the standard of living of both migrant and non migrant households might have improved. If so, there will be absolute mobility. But is that improvement same for migrant and non migrant households? If so then as per mobility terminology, there is absolute mobility. But the relative mobility of migrant and non migrant households will differ. This difference in mobility of migrant and non migrant households will widen inequalities between them. Is that the case of Kerala during 1998-2008 period? . Answer to this question could be found using KMS panel data. This study is basically an analysis of inequality caused by unequal distribution of remittances by migrants. As mentioned in chapter 2, inequality is a distribution related phenomena. Hence reliance on the concept of positional movement to understand whether mobility differentials are causing and widening inequalities between migrant and non migrant households

Before going into such an analysis it is important to understand some basic characteristics of panel data.

4.4 - Panel data structure

Table 4.1 – Panel data structure and summary statistics

		1998		2008	
		Migrants	Non-Migrants	Migrants	Non-Migrants
No: of households		353	607	396	564
Average Family Size		5	5	5	4
Religion of households (in percent)	Hindu	39	70	34	69
	Muslim	43	17	46	13
	Christian	18	13	20	18
Total		100	100	100	100
Caste of households (in percent)	General	36	32	37	30
	SC/ST	5	12	3	12
	OBC	59	56	60	58
Total		100	100	100	100
Sex of the Head of the Household (in percent)	Male	66	80	67	69
	Female	34	20	33	31
Total		100	100	100	100

Total number of panel households = 960

Table 4.2 – Distribution of types of migrant households.

The following table shows the percentage of different types of migrant households as a percentage of total number of migrant households present in panel data set in 1998 and 2008.

	1998	2008
EMI	48.16	52.43
OMI	15.86	13.35
REM	17.85	20.87
ROM	18.13	13.35
Total	100	100

The panel data set of KMS consist of 960 households that appeared in both 1998 and 2008 rounds of KMS .Thus panel households form 9.6 and 6.4 percent of total households surveyed in 1998 and 2008 respectively .In 1998 there were 353 migrant households and 607 non migrant households .In 2008,there were 396 migrant households and 564 non migrant households .Thus the number of migrant households increased overtime in panel data .In 1998, 39 percent of migrant households were hindus,17 percent were Christians and 43 percent were Muslims .Whereas 70.2 percent of non migrant households were hindus,17 percent were Christians and 13 percent were Muslims .In 1998 36% of migrant households belong to General category,59 percent to OBC category and 5 percent to SC/ST category .In 1998,32 percent of non migrant households belonged to General category,56 percent to OBC category and 12 percent to SC/ST category . In 2008,46 percent of migrant households were muslims,20 percent were Christians and 34 percent were Hindus .In 2008,69 percent of non migrant households were hindus,18 percent were Christians and 13 percent were Muslims .In 2008,37 percent of migrant households belong to General category,60 percent to OBC category and 3 percent to SC/ST category .In 2008,30 percent of non migrant households belonged to General category,58 percent to OBC category and 12 percent belonged to SC/ST category . Thus Muslims OBC household continue to dominate in households with migrants .But migration appears less accessible to SC/ST households.

On an average both migrant HH and non migrant HHs had a strength of 5 members in 1998 .The corresponding figures for 2008 were 5 and 4 respectively. Mean HH size for migrant and non migrant HHs are 5.23 and 4.77 in 1998 and 4.59 and 4.32 in 2008 .Thus households with comparatively big family size have the tendency to have more migrants . In 1998, 66 percent of migrant households were male headed and 34 percent were female headed .In 1998,80 percent of non migrant households were male headed and 20 percent were female headed .In 2008,67 percent of migrant households were male headed and 33 percent were female headed .In 2008,69 percent of non migrant households were male headed and 31 percent were female headed .Thus in both 1998 and 2008, most households were male headed .In 1998,migrant households had comparatively more female headed households .But in 2008,both migrant and non migrant households generally behave alike in their tendency to be male headed .In 1998 48 percent of migrant households were emigrants,15 percent were outmigrants,17 percent were return emigrants and 18 percent were return out migrants .In 2008,52 percent of migrant households were emigrants,13 percent were outmigrants,21 percent were return emigrants and 13 percent were return out migrants .Thus overall, there is a decreasing trend in internal migration from Kerala and an increasing trend in international migration from Kerala .

4.5 - Panel Household types

One finds four groups of households in the panel data set from KMS rounds 1998 and 2008.They are (1).Those households who were Non migrants (in 1998) Turning Migrants (in 2008). They may be referred to as NTM hereafter. (2). Those households who were Migrants (in 1998) Remaining Migrants (in 2008) .They may be referred to as MRM hereafter. (3). Those households who were Migrants (in 1998) Turning Non migrants (in 2008) .They may be referred to as MTN hereafter. (4). Those households who were Non migrants (in 1998) Remaining Non migrants (in 2008) they may be referred to as NRN hereafter. These 4 groups together can be called as panel HH types. Before proceeding it is important to state some of the limitations of KMS's 1998-2008 panel data. All those information in 1998 round of KMS were not collected in 2008 round. So when analyzing the panel data, only those information which was collected in both 1998 and 2008 was used. In previous chapter some of the factors other than migration were found irrelevant in determining SOLI scores. So such factors like region was not analyzed in

panel data analysis. Despite all these limitations, KMS panel data can tell a lot about dynamics of migration-inequality relationship.

4.6 - Analysis of migration inequality link using panel data

KMS 1998-2008 panel data do not have data on household consumption expenditure or any other proxies of income .So the only way is to use the standard of living indicator (SOLI) developed in chapter two for analyzing role of migration in inequality by computing SOLI scores for panel household types .An analysis of the decile distribution for SOLI for panel HH types in both 1998 and 2008 will help to understand difference in positional movement of migrant and non migrant HHs. But before moving further, it is important to understand the mobility situation for the entire panel households .Only if there is substantial mobility for the entire set of panel households, there is some meaning in analyzing the inequalities in mobility .This is done in Table 4.3. Table 4.3 shows how SOLI scores are distributed among panel households (all types combined in 1998 and 2008). It shows the percentage of the same households that belong to different deciles of SOLI in 1998 and 2008.

Table 4.3 – Mobility of panel households

SOLI	1998	2008
0-10	2.15	3.75
10-20	35.82	11.56
20-30	25.99	18.75
30-40	16.05	11.67
40-50	6.67	17.19
50-60	4.29	13.75
60-70	4.52	7.19
70-80	3.28	12.60
80-90	1.02	2.81
90-100	0.23	0.73
Total	100	100

Figure 4.1 - Mobility of panel households

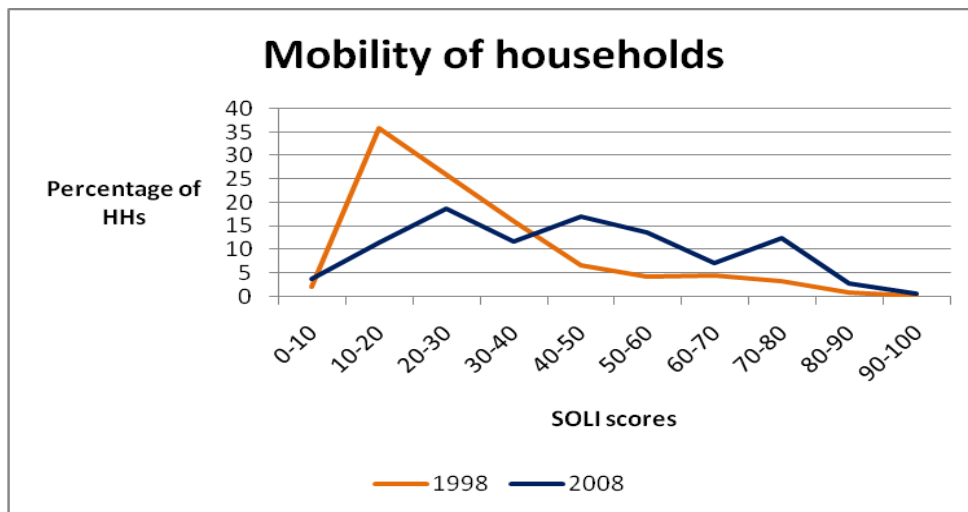


Figure 4.1 is the graphical representation of Table 4.3 .It compares the percentage of panel HHs who were present in different deciles of SOLI in 1998 and 2008 .The table show that there is decline in number of households who have SOLI scores up to 40 ,At the same time there is rise in percent of HHs who have SOLI scores more than 40 .From table 4.3,we can see that in 1998-2008,the number of HHs having SOLI scores more than 40 raised by 34 percent .Needless to say, the number of HHs having SOLI scores less than 40 fell by 34 percent .This means that there is absolute mobility .But are all of the households benefitting from it by the same extend? .To be more specific,what is extend of mobility of migrant and non migrant households? An attempt is made to answer this question using the concept of positional movement .First SOLI scores were computed for all 4 panel household types in 1998 and 2008 .Then it's decile distribution was obtained .From that distribution tried to understand the percentage of different panel HH types that moved from lower to higher deciles in 1998-2008 .This information was used to understand if there is any inequality in mobility between migrant and non migrant households .Table 4.4 compares the distribution of SOLI among panel HH types in 1998 and 2008 .For example in 1998 1.23 percent of non migrant households who turned migrants in 2008 had SOLI scores ranging from zero to ten .When they turned migrant households in 2008,only 0.61 percent of them had SOLI scores ranging from zero to ten .

Table 4.4 – Distribution of SOLI scores among panel household types (1998 and 2008)

SOLI	ntm98	ntm08	mrm98	mrm08	mtn98	mtn08	nrn98	nrn08
0-10	1.23	0.61	2.48	0	1.51	6.82	2.58	5.68
10-20	36.81	9.82	20.79	6.44	42.42	18.18	40.83	11.89
20-30	22.09	9.82	30.69	13.86	25.76	18.94	25.32	23.51
30-40	17.79	10.43	20.79	14.85	18.18	9.09	12.15	11.63
40-50	3.68	21.47	9.91	21.78	6.82	14.39	6.2	15.76
50-60	2.45	13.5	7.43	13.37	1.52	13.64	4.39	14.99
60-70	6.75	12.27	3.96	10.4	2.27	6.06	4.65	4.13
70-80	5.52	17.18	3.47	15.35	1.52	9.85	2.84	9.82
80-90	2.45	4.29	0.5	3.47	0	3.03	1.03	1.81
90-100	1.23	0.61	0	0.5	0	0	0	0.78

From table 4.4 it becomes clear that in the 10 year period, the number of households in lower decile classes of SOLI declined for all panel classes. Naturally, there is an increase in the number of households in higher decile classes of decile distribution of SOLI scores. Generally the number of households who have SOLI scores upto forty (till fourth decile) declined. But the number of households who are having SOLI scores ranging from forty to hundred increased. Again this increase is different for the four types of panel households. For those households who were migrants in 1998 but turned migrants in 2008 (NTM), the percentage of households who belong to top four deciles declined by 47.24 percentage in the 10 year period. Needless to say, the percentage of households who belong to bottom deciles (deciles from five to 10) increased by 47.24 percent. Another group of households continue to remain as migrants in both 1998 and 2008 (MRM). For them, the percentage of households who belong to bottom six deciles increased by 39.6 percent in the 10 year period. Yet another group of households had migrants in 1998 but they do not have neither a migrant or a return migrant in 2008 (MTN). For them, the number of households in the bottom six deciles increased by 34.85 percent in 1998 -2008. Still another group of households continue to remain as non migrants in both 1998 and 2008 (NRN). For them number of households who belong to bottom six deciles increased by 28.17 percent in the 10 year period. Since the comparison is of the position of same households in 1998 and

2008, one must analyze the positional movement, a measure of mobility. Thus mobility of different panel household types differ. When a non migrant household becomes migrant, it has highest mobility (47 percent of households had positional movement). When a household continues to remain as non migrant it has least mobility (only 28 percent had positional movement). The gap in mobility between a non migrant and a new migrant is the highest. Thus new migrants have highest mobility (47 percent of households had positional movement) followed by existing migrants (39.6 percent of households had positional movement), migrant turning non migrants (34.8 percent of households had positional movement) and non migrants (only 28 percent of households had positional movement). All the category of households who had some exposure to migrants stands above non migrants in terms of mobility. At the same time, migrants who are in stages of migration process have different mobility. When a non migrant becomes a migrant his asset position will initially raise. But in later stages of migrants he may not be able to maintain the rate of improvement of his asset position. Thus there is inequality in mobility both between migrant and non migrant households and within different types of migrant households.

4.7 – Confounding factors influencing inequality

4.7.1. Role of caste in inequality

Migration is not the only factor causing inequalities between households. A static analysis done in previous chapter revealed that caste of household members and sex of head of household are important factors that influence inequality other than migration. How do these two factors work for panel household types. This question can be answered by comparing the mean value of SOLI for panel household types by their caste.

Table 4.5 - Mean SOLI scores of panel HH types by caste

Caste	NTM08	NTM98	NRN08	NRN98	MTN08	MTN98	MRM08	MRM98
General	53.61	32.12	45.04	28.97	47.25	37.18	56.86	42.45
OBC	43.20	26.39	34.90	25.58	40.50	33.57	47.07	31.85
SC/ST	30.60	22.48	29.02	20.79	36.21	18.96	42.59	32.40

Firstly, it may be noted that whichever the year and whatever the group identity, the status of SC/ST in terms of SOLI is much lower than general, while OBC is the mid group between SC/ST and General (Table 1). This essentially means that whatever their status, being a migrant or non-migrant, the relative ranking of SC/ST, OBC and general does not change. In other words, during the period 1998 to 2008, the caste identity of household was important in explaining their asset holding. Now, to understand the role of migration let us look at the role of migration. The following table explains inter group differences, keeping SC/ST the lowest in the asset position as the numeraire.

Table 4.6 Intergroup Difference Ratios

Caste	NRN08	NRN98	NTM08	NTM98	MRM08	MRM98	MTN08	MTN98
General	1.55	1.39	1.75	1.43	1.34	1.31	1.30	1.96
OBC	1.20	1.23	1.41	1.17	1.11	0.98	1.12	1.77
SC/ST	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 4.6 shows that in terms of SOLI the general caste, who remained NRN had 1.39 times higher SOLI ranking than SC/ST, while OBC had 1.23 times higher SOLI ranking than SC/ST in 1998. By 2008, the gap between general and SC/ST widened to 1.55, while that of OBC declined to 1.20. This meant that if there was no migration, then the asset inequality widened between SC/ST and general, while between OBC and SC/ST it remained the same.

But when non migrants in 1998 turned migrants in 2008, the gap between SC/ST and general widened further, from 1.43 to 1.79, and for OBC the gap widened from 1.17 to 1.41. This can be interpreted as when non migrants in 1998 became migrants in 2008, the relative asset holding of

general caste and OBCs increased much faster compared to SC/ST. Thus a conversion of status from non-migrant to migrant seems to increase the intergroup asset inequality based on caste.

However, it is interesting to note that when the household status remains as migrant through out the period 1998 to 2008, the SOLI based asset inequality remains one of the lowest. The SOLI for general is only 1.31 times of SC/ST in 1998 in case of MRM and it increases marginally to 1.34 by 2008. The case is similar for OBC as well. Thus it seems to suggest that SC/ST migrants staying put in the host region can in fact maintain status quo of inequality, if not reducing it.

Further, among migrants in 1998 who returned in 2008, though have very high levels of inequality when they are migrants, on return to home region, the caste based inequality reduces substantially. The gap for general to SC/ST reduces from 1.96 to 1.30 and the OBC gap declined from 1.77 to 1.12.

These trends seem to throw up the following argument. Firstly, inequality across caste group did persist over the ten year period. But migration tends to have interesting effects on inter-group inequality. It seems that choosing not to migrate and remaining in the home country would only increase caste based inequality. Yet, non-migrants choosing to migrate, would in the initial phase lead to a rise in caste based inequality, in the later phase when they remain as migrants, the levels of inequality remain more or less stagnant, and when they return to their home country, the levels of inequality in terms of assets seems to marginally decline. This encapsulates the life cycle of the nexus between caste based asset inequality and migration.

Table 4.7 - Change in Asset position of caste groups

Caste	NRN	NTM	MRM	MTN
General	0.55	0.67	0.34	0.27
OBC	0.36	0.64	0.48	0.21
SC/ST	0.40	0.36	0.31	0.91

Now, to look at the relative change in asset position of the caste groups, we take the difference in two years of the corresponding caste-migration column and divide it by the base year. This can be written in the following formula.

$(SOLI08 - SOLI98) / (SOLI98)$

The relative change of SOLI of general caste is higher in case of all migration status, except when they return to their home country. The general caste had the highest mobility in asset position when they converted from non-migrants to migrants, while the lowest came when they converted from migrants to non-migrants. But it also needs to be noted that even if general did not migrate at all, they had fairly high rise in asset position. On the other hand, for OBCs, remaining as non-migrants was a poor choice as their relative change in asset position remained very low compared to their decision to migrate, (NTM or MRM). Again for them, returning to the home country reduced their asset mobility. While, curiously, for SC/ST the asset mobility, in general was low, when they converted from migrants to non-migrants their asset mobility increased substantially. This needs to be explored further.

4.7.2. Gender and Panel HH types

It has already been established that in general; female headed HHs have a lower SOLI scores. Now it is imperative to know how this gendered impact vary across panel HH types . So the analysis of the impact of gender on standard of living by comparing SOLI scores of panel HH types with male and female head of household .Table 4.8 show the mean SOLI scores of different panel HH types by sex of head of household in both 1998 and 2008 .Male headed HHs have a higher SOLI score than female headed HHs in almost all categories of panel HHs .This is true in both 1998 and 2008 .The third column of Table 4.8 show the ratio of mean SOLI scores of panel HH types .This ratio is used to understand the gender based disparity in SOLI scores .

Table 4.8 – Sex of head of HH and SOLI scores across panel HH types

	MALE	FEMALE	RATIO
NTM98	31.27	18.23	1.72
NTM08	49.2	42.84	1.15
NRN98	27.12	22.61	1.20
NRN08	41.44	31.12	1.33
MTN98	32.48	36.29	0.90
MTN08	42.51	43.00	0.99
MRM98	36.90	31.10	1.19
MRM08	50.00	49.43	1.01

Table 4.8 shows that migration is always associated with fall in gender based disparity in SOLI .Consider the households who were non migrants in 1998 but turn migrants in 2008 (ntm) .In 1998 mean SOLI scores of male headed ntm scores were 1.72 times that of female headed households. When these households become migrants in 2008,the mean SOLI scores of male headed households becomes 1.15 times that of female headed .In this way the gap between male headed and female headed households fell for ntm households in the 10 year period .For those households who remain as migrants in both 1998 and 2008 (mrm),the gap between mean SOLI scores of male and female headed households fell from 1.19 to 1.01 in the 10 year period. For those households who were migrants in 1998 but turning non migrant in 2008 (mtn),a peculiar pattern is seen .When such households remain as migration the mean SOLI of female headed HHs is higher than male headed households .The mean SOLI of male headed mtn households was 0.9 times the mean SOLI of female headed households .Even when this households become non migrants in 2008,female households continue to have higher mean SOLI scores than male headed households .In 2008 the mean SOLI score of male headed mtn households is 0.99 times that of female headed mtn households . For those households who remained non migrants in the 10 year period, the gender based gap increased .In this manner migration play an important role in reducing gender based disparity in standard of living of households .

Now a comparison of improvement in standard of living attained by male and female headed panel household types in the 10 year period is made. To attain this the mean SOLI scores attained by each panel household types in 2008 is subtracted from mean SOLI scores attained by the corresponding panel HH types in 1998 and divide it by mean SOLI scores attained by corresponding panel HH types in 1998 .This analysis is performed for both male and female headed panel HH types .The results of this analysis help understand the relative improvement attained by male and female headed panel household types in the 10 year period .This results are shown in Table 4.9

Table 4.9 – Change in SOLI scores by sex of head of household

	Male	Female
NTM	0.36	1.35
NRN	0.53	0.38
MTN	0.31	0.18
MRM	0.36	0.59

Table 4.9 show that when a non migrant HH turns migrant, the improvement in SOLI scores of female headed households is higher than male headed HHs .This is true for those households who remain as migrants also .But for those households who were migrants in 1998 but turn non migrants in 2008,the improvement attained by male headed HH is higher .This is applicable to those households who remain as non migrants in the 10 year period .Thus migration is playing a positive role in reducing gender based disparities in SOLI among the panel HHs .

4.8 – Filtering out the migration impact – Panel regression analysis.

The foregoing analysis revealed that caste of household members and sex of head of household are important factors that influence the asset based standard of living indicator . An earlier estimate of the role of migration in asset based inequality using the Theil index decomposition of SOLI scores is relevant here. .But that type of analysis suffer from one defect. The apparent contribution of migration in inequality in such types of analyses may be due to some other factors. These factors may be present in a disadvantaged manner in non migrant HHs, thereby making them relatively disadvantaged in terms of SOLI score. So it is important to control the other factors to see if migration really matters in Standard of living. An analysis which aimed at revealing impact of factors other than migration in determining SOL showed that among those HH characteristics about which information is available in panel data; caste of the household and Sex of Head of household are important determinants of standard of living. So a panel regression of values of SOLI on these variables may help us to filter out if there is any role to migration in determining SOLI scores .

Panel regression model has Asset based standard of living indicator (SOLI) as the dependent variable .This is represented as SOLI in the model .Migration is represented by a ratio of number of migrants to total household size. This will be referred to as migration intensity and will be represented as MIGINTEN .Caste is represented by a dummy which is Zero for non SC/ST households and One for SC/ST households .This dummy will be represented as CASTE .Sex of head of household is also represented by a dummy ; if head of household is Male it is put as Zero and if Female it is put as one .This will be represented as HDSX .Another dummy is put for the year, say 1998 or 2008 .This will be represented as YD .The number of people who are employed but not migrants will be represented as NMEMPL .As mentioned above an interaction term of Cast (dummy) and migration is also included in the model .This will be represented as INTER .

The inclusion of caste and sex of head of household in the panel regression analysis is consistent with literature on standard of living of households .Lanjouw et.al (2001), proved that not only scheduled caste households in India own less land, they also experienced lower returns to higher education as compared to other households . Rajuladevi (2001) using primary data analyzed caste

differences in food intake between backward castes and Scheduled castes in four different agricultural regions in Tamil Nadu. The study identified variations in food intake between Scheduled castes and other backward castes (OBC) households. Saggar (1994) found that the monthly per capita consumption expenditure of SC's and ST's were considerably less than that of other households for all states in both rural and urban areas . Kozel (1999) found that the major factors that explain the gap in living standards between Scheduled caste and majority households are the fewer private assets as well as lower levels of human capital. There are comparatively fewer studies on relationship between gender and assets .According to Doss, Grown and Deere (2008) lack of empirical information on the distribution of wealth and property by sex make gender not a prominent part of literature on wealth .But most of the available studies agreed on the role of gender in asset ownership. Austen, Jefferson and Ong (2010) proved that single women's ability to achieve comparable levels of wealth to their male counterparts at each life stage is limited. (Deere and Doss 2006a) proved that women in many countries are far less likely than men to have ownership or control of productive assets. Dillon and Quiñones (2011) found that women's assets grow more slowly than men's assets over a long time horizon. A 2004 survey by ICRW in two Indian states found that of 402 women surveyed in Kerala, about 36 percent owned immovable property; of these, 16 percent owned a house only, 5 percent owned land only, and 15 percent owned both house and land; in West Bengal, of 450 women surveyed, 35 percent owned property and, of these, nearly 47 percent owned a house only, 36 percent owned land only, and 9 percent owned both (ICRW 2006).

A pooled OLS regression is performed first, it was found that migration has a positive and significant impact on Standard of living .Then both fixed effect and random effect regression were performed but Hausman Test favoured fixed effects model .The model does not have any auto correlation or multicollinearity but there is presence of Heteroscedasticity. It is corrected using Variance Component Estimator or VCE (robust) method. This final model also assigns significant role to migration as a factor determining standard of living.The results are given below. All results are significant at 5 percent level. The results of panel regression are shown in next page.

Table 4.10 – Factors that influence Asset based standard of living indicator

Dependent variable : Asset based standard of living indicator (SOLI)				
Model	Pooled OLS	Fixed effects	Random effects	Fixed effect (vce)
Regressors	Coefficient (t value)	Coefficient (t value)	Coefficient (z value)	Coefficient (t value)
Constant	31.386 (35.1)*	30.065 (31.01)*	31.028 (35.05)*	30.065 (30.7)*
MIGINTEN	6.221 (6.39)*	2.962 (2.6)*	5.041 (5.5)*	2.962 (3.26)*
NMEMPL	-1.22 (-0.9)	2.285 (1.29)	-1.406 (-0.11)	2.286 (1.25)
CASTE	-8.227 (-5.58)*	-5.569 (-2.42)*	-7.605 (-5.02)*	-5.57 (-2.01)*
HDSX	-5.063 (-5.1)*	-4.416 (-3.24)*	-4.888 (-4.96)*	-4.416 (-3.18)*
YD	13.705 (15.27)*	13.867 (19.74)*	13.781 (19.72)*	13.867 (19.77)*
INTER	-1.056 (-0.51)	-2.043 (-0.86)	-1.409 (-0.73)	-2.043 (-0.83)
R square	0.158			
Within	-	0.322	0.317	0.322
Between	-	0.053	0.073	0.053
Overall	-	0.149	0.16	0.149
F statistic	56.37	69.538*		
Wald			Chi square (6)= 471.66	
F test that all $u_j=0$		2.35*		
Hausman Specification test	Chi square = 18.24 (p=0.0057)			
Number of observations	1770			

*Significant at 5% level.

Results of panel regression show that migration, represented by MIGINTEN positively influence asset holding of households. Moreover its contribution is significant. But on the other hand non migrant employment represented by NMEMPL does not have any significant impact on asset holding of households. Hence migrant households may be able to acquire more assets than non migrant households. This might lead to widening of inequalities in asset holding between migrant and non migrant households. Thus the regression result indirectly confirms the role of migration in creating inequalities between migrant and non migrant households. Even though caste and sex of head of household have significant impacts on asset holding, they are not interacting with migration. Thus the regression results brought out various factors that influence asset based standard of living indicator and at the same time confirms the role of migration in determining standard of living of household. The difference in significance of migrant and non migrant employment point to the role of migration in inequality.

CONCLUSION

This chapter is an analysis of the dynamics of migration – inequality relationship using 1998-2008 panel data of KMS.SOLI scores computed for HHs appeared in panel data was used for this purpose. This analysis leads to the following conclusions. First, Migration is causing inequalities in mobility between migrant and non migrant households and between different types of mobility. Second, caste and sex of head of household are important factors that influence the asset holding of households. While migration reinforces caste based inequalities among households, it reduces gender based disparities in asset holding. These findings were confirmed by a panel regression of SOLI scores on various factors that influence it. The regression proved that migration has significant impact on asset holding of the household whereas non migrant employment does not have significant impact on asset holding. This differential impact confirms the role of migration in creating inequalities between migrant and non migrant households.

CHAPTER 5

Summary And Conclusion

Kerala has been faced with widening inequality in the recent past. While many studies have analysed various dimensions of inequality, one of the most important factors that has been overlooked is the role of migration and remittances. Remittances sent by international migrants constituted a third of (31 percent) of Kerala's Net State Domestic Product. It is quite interesting to note that the remittances coming to Kerala during the past one decade increased by 254% , the proportion of households that has received remittances is stagnant at about 17 percent.. The vast majority of Kerala households, over 80 percent, is still not benefiting from migration. In this context the question whether remittances and migration have some bearing on inequality situation in Kerala is very pertinent. This study tried to understand the impact of migration and remittances on Kerala's inequality scenario.

An attempt has been made here to examine whether migration was causing inequality between households with or without migrants and if so, to what extent . Further the factors that confounded the relationship between migration and inequality have also been examined. The database generated from migration monitoring studies conducted by Centre for Development Studies, Thiruvananthapuram was utilised for the purpose. The objectives of the study were as follows:

- 1.To understand the role of migration in Kerala's economic inequality by comparing living standards of migrant and Non migrant Households.
- 2.To analyse economic mobility of migrants vis-à-vis non-migrants and its effect on observed trends in inequality

First chapter identified the literature gap by reviewing the studies on migration from Kerala and inequality in Kerala .Then the basic concepts relating to inequality were discussed .An attempt was made to understand the literature on relation between migration and inequality .Studies showed that if migrants were coming from poorer sections of society then migration would reduce inequality. On the other hand, if migrants originated from richer sections of society, then migration would increase inequality .

The KMS data base was discussed in detail in Chapter 2 .Even though income or its proxies are the common source of income and when data on the same is unavailable, asset holding of households can be used to understand the economic status of both migrant and non migrant households .In the case of KMS data base, data on income or its proxies are not available in such a manner to facilitate the comparison of migration's role in inequality in two time points. But data on cooking fuel used by households, housing condition, land holding of households and possession of certain consumer durables by households were available in 1998 and 2008 rounds of KMS .These information was also available in a panel dataset of those households who were surveyed in both 1998 and 2008 rounds of KMS. So the study tried to analyse the inequality between migrant and non migrant households using these asset related variables . Even though one could compare the performance of households with and without migration using each of aforesaid indicators of standard of living; a rigorous assessment of migration – inequality relationship demands an indicator of standard of living. A single indicator of standard of living was computed from variables of different nature and constructed an index of standard of living by combining the technique of range equalisation to remove scale bias, and first principal components to assign weights for components of the indicator.

Chapter 3 was a static analysis of living standards of migrant and non migrant households. Analysis showed that migrant households stayed ahead of non migrant households with respect to various standard of living indicators available in KMS .In the case of some indicators, the distribution of them between migrant and non migrant households also seem to favour migrant households .The average monthly consumption expenditure of migrant households was higher than that of non migrant households .The distribution of the same also favoured migrant households .Similar pattern was observed for asset holding of migrant and non migrant households .These findings were considered as the preliminary evidence for the role of migration in inequality .With this evidence proceeded to ascertain the role of migration in inequality . The dominant analytical technique adopted in studies examining migration-inequality link is to estimate the marginal impact of a change in remittances on some inequality measure, mostly the Gini coefficient. An analysis of this sort was done using data on income proxies, mainly consumer expenditure data, obtained from 2008 round of KMS. This analysis revealed that 1% rise in remittances coming to Kerala raise the Gini coefficient by 0.06% , thus remittances have a direct positive impact on inequality but the magnitude of influence was not very high. Had data on income proxies available for 1998 round of KMS, one could have conducted the same analysis for both 1998 round and compared the results. Since this was not possible further study could not be made and conclusions based on proxies of income .Since information on asset holding and housing conditions were available for both 1998

and 2008 rounds, asset based standard of living indicator (SOLI) developed in Chapter 2 was used to compare the role of migration in inequality in 1998 and 2008. Mean SOLI scores of migrant households were significantly higher than non migrant households. The distribution of SOLI scores also favoured migrant households. Thus migration was causing inequality in the overall standard of living between migrant and non migrant households. Besides migration, sex of head of household and caste of household were found to influence SOLI scores. To ascertain the contribution of inequality between migrant and non migrant households to overall inequality a decomposition of Theil index of SOLI scores was done. This analysis showed that inequality between migrant and non migrant households contributed only 7 percentage of total inequalities in 1998 and 6 percentage of total inequalities 2008. The rest was contributed by inequality within migrant and non migrant households. Thus it was inequalities within migrant and non migrant households that mattered. Migration did have a positive role in inequality but the magnitude of its contribution was not very high.

Fourth Chapter dealt with the dynamics of migration-inequality relationship in Kerala. A panel data set of those households who appeared in both 1998 and 2008 rounds was used for this. This panel data contain 4 types of households. They are Non migrants, Turning Migrants in the 10 year period (NTM), Migrants remaining migrants in the 10 year period (MRM), Migrants turning non migrants in the 10 year period (MTN) and Non migrants remaining non migrants in the 10 year period (NRN). The researcher has compared the distribution of SOLI scores for panel household types in 1998 and 2008. A comparison of the percentage of panel households who moved from higher to lower deciles in the 10 year period (1998-2008) was used to understand mobility. These percentages were 47 for NTM, 39.6 for MRM, 34.85 for MTN and 28.17 for NRN. Thus NTM has highest mobility followed by MRM, MTN and NRN. Thus there was inequality in mobility both between migrant and non migrant households. There was inequality in mobility between different types of migrants households too. An analysis of panel household types revealed that relatively lower asset position of SC/ST households remained same even after migration. But female headed households could make an improvement from their relatively low asset position. Thus migration reinforced caste based inequality and reduced gender based inequality in asset holding. Finally this Chapter tried to filter out migration's impact of standard of living by running a panel regression to control other factors that influence standard of living, indicated by SOLI scores of panel households. This analysis revealed a positive and significant role for migration in determining standard of living of household; but at the same time showed an insignificant role to non migrant employment. This difference in significance indicated that inequality between migrant and non migrant households was widening.

Conclusion

The study revealed that migration and remittances had a positive and significant role in creating inequalities in standard of living between migrant and non migrant households .Standard of living of migrant households is higher than that of non migrant households. Distribution of various indicators of standard of living was favouring migrant households. Quantification of role of migration in inequalities confirmed that migration was creating inequalities in standard of living between migrant and non migrant households. Migration and remittances had a positive impact on inequality between migrant and non migrant households. But the of magnitude of impact was not very high .

However, given that even if the effect of migration on inequality was small in comparison to other unexplained factors, the dynamic analysis of migration panel data showed that its role in inequality was significant. In short, though migration may not be a cause to worry as an explanation for inequality currently, it has the potential to become one in future, as shown in the panel analysis.

Limitations of the Study and recommendations for further study

The data used for comparing the role of migration belong to a period of 10 years.. But inequality is something that gets established among individuals and households in a longer period of time. Asset accumulation of individuals and households is an outcome of various historical processes to which they are exposed. Thus the patterns of asset holdings of households may be influenced by events that took place much before 1998. Migration from Kerala become prominent from 1940's onwards. Given the fact that migration from Kerala had more than 70 years of history, an analysis with longer time span will give better picture of role of migration in inequality. So a study covering a longer period is necessary. But constraints of non availability of data make such a study a difficult one.

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