Trade Liberalisation, Internal Female Migration and Well-being in India

Brinda M Viswanathan
India

Poverty Monitoring, Measurement and Analysis (PMMA) Network
Trade Liberalisation, Internal Female Migration and Well-being in India

Proposal submitted to PEP Research Network
(Revised Second Draft)

Brinda Viswanathan

*Institute for Social and Economic Change, Bangalore*

and

K. Shanthi

*University of Madras, Chennai*

May 2005
Trade Liberalisation, Internal Female Migration and Well-being in India

Abstract

Trade liberalisation has changed the policy focus in India from ‘import substitution industrialisation’ to ‘export promotion’ industrialisation. Coupled with this is the Structural Adjustment Policies initiated since 1990 which have induced migration from the rural to urban areas. The migration literature is flooded with studies on male selective migration. But research studies on family migration (or female associational migration with males) and autonomous (independent) migration of females are few and far apart. Even here the process of migration decision making at the household level and the causes and consequences of migration have been dealt with and not its link with poverty.

The proposed work tries to link gender, poverty and migration through an analysis of a large-scale sample survey data of the National Sample Survey Organisation for the states of India. The aim is to compare the changes in the pattern of migration for the late 1990s with early 1990s to see the impact of reforms on migration of women. To throw light on the gender aspects it is intended to compare two states one, with high per capita income growth and FDI investment to the one with low per capita income growth and less FDI investment. The nexus between and among gender, trade, migration and poverty would be assessed within the framework of vulnerability analysis.

Once completed this study hopes to help policy planners in developing appropriate strategies for managed flow of migration from rural to urban areas and convert migration as a policy instrument to achieve desired spatial redistribution of population and address questions relating to environment, gender and poverty.
Main Research Questions and Core Research Objectives

Trade liberalisation in India gained momentum since the early 1990s mainly due to the changes in policies towards export promotion and to some extent influenced by the trade reforms as envisaged by the World Trade Organisation. As the present situation stands, most of these reforms apply mainly to the non-agricultural sector in India. Though it is agreed without much dispute that trade liberalisation improves the rate of economic growth, its impact on poverty or well-being of all the people in a nation has been ambiguous. The present study is an attempt to contribute further to the linkage between trade liberalisation and poverty from a gender perspective by focussing on female migration.

The linkage between trade liberalisation and well-being is pursued under the framework that employment opportunities increase for some segments of the population particularly in the lower economic strata thereby improving their economic status and pulling them out of poverty. One such segment of the population has been women who have gained employment in many export-promoting industries like garments or manufacture of electronic goods. A significant proportion of these women have migrated from rural areas to make use of these opportunities. Two interesting features have been noted among these migrant workers: (a) a significantly large proportion of these women have migrated alone in groups thereby changing the pattern of female migration from associational to autonomous and (b) those women who have migrated with the male members of the family have found employment earlier than their male counterparts and hence the migration decision of the family is not contingent upon male employment alone but on the female employment as well.

Though access to employment and in particular wage employment is considered to be welfare improving its impact on well-being of women is perhaps ambiguous compared to their male counterparts. On the one hand female employment particularly in the export-oriented segment has been found to be exploitative in nature by not only providing lower wages (making use of the lower reservation price of women in order to cut production costs) but also poor working conditions and increased work intensity (Swaminathan, 2004). More importantly not acceding them a ‘worker’ status results in lack of bargaining power and lack of access to formal grievance redressal mechanism (Swaminathan, 2002). These have been argued as welfare

---

1 The last two censuses in India have shown a decline in urban migration of single males while family migration and autonomous female migration have increased (Shanthi, 2004). Studies have shown that female members of a migrant household tend to find employment earlier than males (mainly in the informal sector) due to their willingness to accept lower wage. They have no ‘reservation wage’ to compare as men do. In recent times, these women have found increased wage employment due to changes in forms of industrial production favouring female employment.
reducing in addition to no changes in domestic work burden due to the lack of male participation in domestic chores. On the other hand female employment is likely to provide greater economic independence and an opportunity to influence household decision making apart from directly contributing to better household nutrition and education status particularly of the girl children.

**Objectives of the study**

The aim of the proposed study is to understand further the complex linkage between improved access to employment for women in the phase of trade liberalisation and impact on their well-being. Thus the study hopes to contribute in three different aspects of improving welfare (a) impact of migration on poverty (b) impact on status of women due to increased access to employment and better infrastructure facilities in urban areas and (c) the impact of trade liberalization on household poverty. The policies focussing either on urban development or poverty reduction as well as the mainstream studies on impact of trade liberalisation on poverty have paid little attention to the gender dimension in the Indian context and the proposed study hopes to fill this gap.

The important questions to be addressed in the present study would be:

- Changes in pattern of migration in late 1990s (post reform period) when compared to early 1990s (initiation of reform process)
- Inter-state differentials in pattern of migration (mainly focussing on females) to compare high growth regions of India with the low growth ones during 1990s.
- Among the women who migrate, is the vulnerability to poverty lower among women who migrate to seek jobs in high growth regions when compared to low growth regions.
- What policies are being framed to improve the status of women at work in this period of trade liberalisation?
- What additional support policies do migrant women need?

**The Context**

**Gender and Poverty**

Poverty is understood as ‘inadequate command over commodities and a key determinant of other aspects of welfare, such as health, longevity and self-esteem’ (Lipton and Ravallion, 1993). The poverty line approach, which is currently being used in India, does not capture all dimensions of poverty and plagued by methodological loopholes. \(^2\) Poverty includes deprivation

---

and insecurity as well and any attempt to place monetary values on these aspects of personal household and social deprivation involves making arbitrary assumptions. Deprivation occurs when people are unable to reach a certain level of functioning and capability which may include physical weakness, isolation vulnerability and powerlessness in addition to lack of income and assets (Chambers, 1989). Access to common property resources, state owned commodities and dignity and autonomy are also included in the list (Baulch, 1996). Viewed in this light women are more poverty stricken than men.

The relative deprivation suffered by female members within the household particularly by women and girl children, in view of the cultural factor in the Indian context of feeding the male members first and giving priority to them in the consumption of quality diets (like milk, green vegetables, meat and fish etc.), is not captured in the official poverty index. That girls and women are disproportionately burdened with malnutrition is evident from the lower survival rates of female children and high rates of maternal mortality. Another important gender component to be reckoned in the Indian context is the existence of female-headed households. Micro studies in the Indian context on female headed households have come to the conclusion that female heads are generally older than male heads; female heads usually have a lower educational attainment than male heads; male heads are more likely to have stable employment and higher earnings when compared to female heads; differences in occupation and education translate to differences in income; female heads have lower access to land, capital goods and technical assistance and female heads have to work more market hours than male heads to earn the same income. Male migration to the urban area and consequent female headship in the rural areas is not something uncommon. Remittances may be regular or irregular and instances are not wanting where the male in the urban area has remarried to form a new household and consequent severing of ties with the rural family. Unemployment, poverty, migration and gender are thus weaved together to form a complex web.

**Trade liberalization, Work and Poverty**

Trade policy can have both beneficial and adverse impact on household welfare through its impact on growth and income distribution reflecting on employment, prices and wages and hence on poverty. The interconnection between trade liberalization, work and poverty is positive from a theoretical perspective while the empirical evidence is ambiguous. The initial pages of the *Global Economic Prospects, 2002* (World Bank, 2002) claims that trade liberalisation could raise 300 million people out of poverty by 2015 while the final sections of the same report clearly highlight that the assumption - increased return to unskilled labour - made to arrive at for the reduced poverty rates is not empirically validated uniformly. That there are exceptions to the
standard theory of wage convergence leading to increases in poverty rather than its decrease is an
important concern. While McCulloch et al., (2001) indicate reservations on a positive causal link
between trade liberalisation and poverty Winters et al., (2004) conclude that the evidence so far
has been more towards optimism while case-to-case variations are observed depending on ‘the
starting point, trade reform measures undertaken, who the poor are and how they sustain
themselves’. Similarly, Hillary (2004) points out that if the emphasis by the WTO is only on trade
liberalisation and does not take into account the features of the individual (mainly developing)
countries undergoing trade liberalization then poverty reduction may not be pervasive and counter
evidence will abound.

In the Indian context the evidence on linkage between trade liberalisation and poverty are
relatively few and the issue has been mainly addressed from the perspective of employment and
wages in the non-agricultural sector. The evidence shows that in the initial phases of the reform
(1991-1995) employment in organised manufacturing sector increased while wages were not
affected (Winters, 2004). In the later stages the employment grew marginally but the wages also
improved but with increased volatility (Hasan et al. 2003). Given these general observations on
the linkage between trade liberalisation employment and poverty, what is its impact on female
employment and wages and consequently on poverty? The next section briefly discusses the
empirical evidence on this from the perspective of women’s rural to urban migration.

 Trade liberalisation and female employment oriented migration as livelihood strategy

With the rise of export processing zones in the early 1980s of South East Asian and Latin
American countries, plenty of opportunities became available to women in the services and
industrial sectors located in the cities (Kelly and Patricia, 1983; Hayzer, 1982; Khoo, 1984). An
important consequence of this has been the changed pattern of women’s migration. Migration,
which predominantly used to be associational that is, linked to a male member of the household is
now autonomous as well. From an early age girls become economically independent living on
their own in the cities and sending remittances home. In South Asia, where a woman’s movement
as labour migrant used to be rare and associated with derogatory status, a change in migratory
pattern is observed since the early 1990s. In India economic liberalisation and in particular trade
liberalization has created gender specific labour demand where women either migrate in groups or
with their families to cash-in on the opportunity (Shanthi, 1991 and Sardamoni 1995).

More importantly the setting up of export processing zones not only changed the pattern
of female migration but also increased the proportion of women in the labour force who are
mainly in paid employment. The preference for woman employees was mainly because they
accepted lower than reservation wage, were not unionised and do not protest much against
unpleasant working conditions. All this has resulted in poorer health conditions and further worsening of work burden on women, increased risk to sexual harassment as highlighted by Ghosh (2001) and Swaminathan (2002 and 2004) in several export-processing zones in India. Though this does not augur well with improvement in women’s status it has not deterred women from contributing to family survival and studies are not wanting which highlight that it is women who settle down in the labour market as flower/fruit vendors and domestic servants and allow the men to find a suitable job leisurely or improve their skill (Shanthi, 1993).

Hence it becomes imperative to understand the nexus between gender, poverty and migration since migration not only reduces the incidence of underemployment but also increases the amount of remittances thereby contributing to overall reduction of poverty. The focus of this work would be on the impact of trade liberalization on internal labour migration, gender specific labour demand and consequent dent on rural/urban poverty.

**Scientific contribution of the research and Policy Relevance**

The existing studies on gender and migration have tried to analyse differences in the pattern of male and female migration, factors which have a bearing on female migration, the vulnerability of female migrants to trafficking, health problems of migrants like susceptibility to HIV/AIDS, and migration decision making processes at the household level. There are fewer studies which attempt to understand female migration in the context of macro economic policy changes, and migration as an instrument of poverty alleviation especially in the context of gender specific labour demand that favour women. The present study hopes to fill this gap.

At the academic level this study would like to gain more insights into the dynamics of gender, migration and poverty.

**Dissemination Strategy**

**Academic Community**

The proposed study is focussing on an ongoing change in welfare assessment literature namely moving away from poverty to vulnerability assessment. The former measures the current state of welfare being below a certain threshold while the latter is an assessment of both the current and future status. The forward looking nature in vulnerability assessment makes it difficult to quantify and since it involves the notion of risk, data requirement would preferably panel in nature on household income or consumption. However, there are a few studies that use single cross-section information to estimate vulnerability including the proposed study. Dissemination of these results in academia would be through:
Seminar presentation at one or two leading institutions in India apart from the host institutions of both the investigators;

- Journal publications dealing with (a) employment and trade issues and (b) gender and development issues;
- Publication of the entire set of results as a small monograph by an India publisher for a comprehensive representation of the results of the study to be sent out to universities and educational institutions;
- A brief overview of the study will also be sent for publication in a leading local daily in English as well as in vernacular language (Tamil).

All of this is to get feedback on the study as well as to exchange the results with other colleagues in academia for further understanding the linkage between trade liberalisation and female employment and female migration and overall well-being of the household to which they are part of. The methodology of the present study would further enrich the understanding of the notion of vulnerability and its measurement. Finally most of the consumption data sets have very little information about the notion of risk as perceived by the individual or the households. As risk is an inter-temporal concept and capturing it in a single large survey would be difficult. But more and more studies (like this proposed study) that focus on trying to somehow address this would also be beneficial in designing surveys that can capture risk more effectively.

**Policy Makers**

This study once completed is likely to be of significant use to policy planners in devising more pragmatic and engendered poverty alleviation policies. The monograph and the publication in local daily would serve as a good publicity issue to bring it to the notice of the policy planners who often view migration as the culprit for urban congestion and pollution warranting increased government expenditure on urban infrastructure. The policy planners often underestimate the role played by caste and group networks in inducing rural-urban migration and the role played by women in family survival. Through a positive approach to rural-urban migration and proper regulation of migrant streams, which means migration being used as a policy intervention variable the state can achieve desired results not only in the removal of unemployment and poverty in rural and urban areas (though may have a different characteristic in the two regions), but also in mainstreaming women’s potentials to nation building.

In India there is still lot more to be done in terms of providing day care for working mothers and the policies are nascent towards this, as this is one of the criteria to enhance women’s participation in labour market. One to one discussions with prominent government officials who are dealing with urban development issues as well as women’s welfare would further help in bringing the issue of women’s empowerment to the fore as well as providing schemes that do not
hamper their work participation on a regular basis. More importantly this analysis can further spawn studies which focus on women’s working conditions in such units in general and the possibilities of introducing several insurance schemes that safeguard them against various types of risks including job loss.

Non-governmental organisations and civil society

The intention of putting out the results for discussion in the popular media is to understand the female employment-migration nexus on the one hand as perceived by the society while at the same time to possibly make the work atmosphere more conducive for them including addressing of issues like improved access to child-care facilities and sexual harassment at work place. These issues get very limited attention in social policy in most parts of India including the more developed states. A further important contribution would be towards gender sensitisation by highlighting the contribution of women to household income (through female migration facilitated by trade liberalisation). The interactions with civil society and the NGOs can further help in giving inputs to policy making for a conducive work atmosphere for women and highlight issues on gender stereo-typing and wage discrimination as faced by women at work. A positive fall out of migration could also be in terms of raising skills and levels of education for the migrated women in general (or of their offspring) thereby improving scope for upward income mobility within this generation (or at most by the next generation).

Methodology

Migration is caused by ‘push’ and ‘pull’ factors: poverty is a push factor for an individual (or his entire) family to migrate and trade liberalisation acts as pull factor by giving (better) employment options. So this study would use this aspect of development focussing on female members of the household. The literature on migration has given very little attention to the contribution of female work in reducing poverty. Though there are several studies highlighting feminisation of poverty or female-headed households being more poor (Fukuda, 1999; Pressman, 2002; Quisumbing et. al, 2001 and Wright, 1992), their positive contribution as benefiting from the trade liberalisation is much less highlighted. Therefore, the present study intends to document their contribution to household incomes by analysing a large scale survey data on employment conducted in India once in five years. Three sets of issues would be addressed in the present context:

(a) Changes in pattern of migration: The process of economic reforms in India was set in motion in the early nineties. Though most of these reforms have mainly concerned themselves with the industrial and service sector several noteworthy changes have taken place in the Indian economy
between early and late 1990s. Prominent among these are increased FDI flows into India, increased export of electronic goods, software and garments, decline in poverty rates and change in employment patterns which are different for males and females and across rural and urban sector. Given these features, the first section of the analysis would focus on the question: Is there a marked change in the pattern of migration in the early 1990s to that of late 1990s? The answer to this would essentially be based on the following aspects

- single or migration with family,
- age-specific migration,
- occupational choice (self employed or wage employment or unemployed) before and after migration
- nature of economic activity (agriculture, industry or service sector) before and after migration.

The focus of this analysis would essentially be on women but a comparison with male migration patterns is inevitable.

(b) Inter state analysis: During this period of change there have also been notable differences across states (provinces) in these patterns. The states in India have different growth rates in their domestic product, with varying pattern of sectoral growth and composition (Shetty, 2003). Consequently some states have more export-oriented firms (sector or industry may again vary between these states) compared to the others. Given these features, the location to which migration takes place that is whether it is rural-rural or rural-urban may be different between states and the level of skill or education would also vary depending upon the choice of location and other features of employment.

The question here would be to analyse how have women migrations been different across different regions?

The two sets of issues as in (a) and (b) above are descriptive in nature and will have no specific methodology. Only tabular representation of the data will be presented. The intention is to carry out a preliminary analysis of pattern of female migration as there is not much empirical evidence available in the literature based on this data set and also to understand the gaps in data collection to further study the issue in (c) below.

---

3 These observations are based on various reports of economic survey brought out by the Ministry of Finance in India before the budget presentation of the Union Government in the Parliament. These documents are downloaded from www.finmin.nic.in.
(c) Female Migration and Development: The current development literature and policy is focusing mainly on trade as an engine of growth. Based on the results from (a) and (b) two regions would be selected that have contrasting features in terms of occupation and economic activity as well as the presence/absence of export-oriented firms. These two regions would be the focus of analysis for understanding the impact of trade liberalization leading to female migration and consequently on well-being.

This analysis would mainly root itself in the recent literature on ‘vulnerability to poverty’ as discussed in Dercon (2001). Vulnerability here is defined as ‘ex-ante poverty’ and need not just limit itself to income poverty alone but other dimensions of deprivation could also be considered such as education, nutrition or health. Therefore a measure of vulnerability would be to count the number of people with a high probability of being poor in the following period or in the near future. The measure is broader in that it takes into account those who will not move out of poverty but also those who will move into poverty permanently as well as temporarily.

This framework gives one the scope to study the role of risk or shock (both downside) on household or individual welfare. The data requirement for this would essentially be panel data on the variable based on which the welfare (or poverty) is considered as well as the correlates of this variable. However, what is different in the proposed study is to illustrate that in the presence of coping mechanisms how the average vulnerability reduces.

Given this methodology the present study considers migration as an adaptation to a risk caused by a decline in agricultural incomes or lack of sufficient jobs in their existing location. In other words it is a coping mechanism that allows households to improve upon their welfare status. By focussing on women we essentially compare households where women have migrated with other male members of the family or alone with those where they stay back and are not in a position to move out. As it is well known that female headed households are usually more poor, this may mean that that their future economic status may also not improve without this option.

The question is how does this adaptation option reduce the vulnerability to poverty? Therefore the aim would be to compare welfare between: (a) those who migrate and those who do not and (b) those who seek jobs in export-oriented firm versus those in other jobs among those who migrate.

As mentioned earlier vulnerability mainly arises from a time-series perspective and its measurement would require longitudinal data. However, Chaudhuri et al (2002) suggest an approach where a single cross-section data could be used to get an estimate of the vulnerable population. The methodology involves the estimation of a regression function with (log) consumption as the dependent variable with the explanatory variables mainly consisting of individual characteristics of the migrating individuals like their educational background, age and
occupation and the socio-demographic characteristics of the household like occupation, household composition, etc. as is available from the data.

Equation (1) \( \ln C_h = X_h \beta + \varepsilon_h \) with \( \varepsilon_h \sim N(0, X_h \theta) \)

Where, \( C_h \) is the consumption and \( X_h \) and \( \beta \) are the vector of explanatory variables and parameters respectively. This regression is estimated taking into account the heteroscedasticity in the error term to account for the fact that consumption is affected differently for different individuals in the presence of a shock. The variance is visualised in a simple manner as follows:

Equation (2) \( \sigma^2_h = X_h \theta \)

Two sets of unknown parameters \( \beta \) and \( \theta \) are estimated using the three-step FGLS method.

Finally, a probabilistic statement as given below estimates the vulnerability:

Equation (3) \( \hat{v}_h = \hat{P}(\ln C_h < \ln z / X_h) = \Phi \left( \frac{\ln z - X_h \hat{\beta}}{\sqrt{X_h \hat{\theta}}} \right) \)

Where \( P \) denotes the probability, \( \Phi \) denotes the cumulative distribution function of a standard normal variable and \( z \) is the poverty line value. If the estimated vulnerability is above a certain benchmark then the household is likely to be vulnerable. The benchmark value as chosen by Chaudhuri et. al (2002) is 0.5. The proportion of households estimated to have a value above 0.5 would be the vulnerability rate in the concerned population.

**Migration and Vulnerability Assessment**

The present study would try to estimate equation (1) with a binary variable representing the migration status as one of the explanatory variables. Since the consumption information in the data set is at the household level while the employment is at the individual level, the migration status will be for all the employed members of the household, including those seeking employment after migrating with the other members of the household.

Equation (2) is to account for household level heterogeneity and it is not necessary that only this specification be used but alternative specifications to model heteroscedasticity will also be attempted.

Equation (3) assumes a normal density while it may be possible to use a non-parametric approach to estimating the probability, as the distribution may not necessarily be normal when only a subset of population whose household member(s) has migrated is taken into consideration for the analysis.

---

4 According to the definition, vulnerability, \( V_{ht} = \Pr(C_{ht+1} = C(X_h, \beta_{t+1}, \alpha_h, \varepsilon_{ht+1}) \leq z | X_h, \beta_t, \alpha_h, \varepsilon_{ht}) \). This probability cannot be estimated, as \( \beta_{t+1} \) is unknown. So this alternative approach is suggested by Chaudhury et. al (2002)
Comparison of vulnerability levels across households where
(a) women have sought employment after migrating versus female-head households and
(b) women migrate to seek employment in regions where the impact of trade liberalisation is ‘visible’ versus those who seek employment in other regions

This would in essence be able to capture the effect of migration as well the trade liberalisation on female employment and hence household vulnerability.

These changes in the existing methodology would essentially contribute to further strengthening vulnerability assessment using a single cross-section.

**Database**

The National Sample Survey Organisation (NSSO) collects information on employment and unemployment every year while once in five years the survey is based on a larger sample covering more detailed aspects. One of the components deals with migration related aspects. The information based on these quinquennial surveys is available at the household level and is provided by the ‘ministry of statistics and program implementation’, Government of India. The researchers are already working on research issues based on this data set and hence have access to it in their present host institution.

The choice of regions for comparing the welfare among migrants across different types of migration patterns (for instance rural to rural versus rural to urban) as required in (c) above (in the methodology section) would be determined based on the results in (a) and (b) of the same section.
**Time Schedule**

<table>
<thead>
<tr>
<th>Time period</th>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month 1 – Month 2</td>
<td>✅ Literature Survey</td>
</tr>
<tr>
<td>Month 2-Month 4</td>
<td>✅ Analysis of changes in pattern of migration between early and late 1990s.</td>
</tr>
<tr>
<td>Month 4-Month 6</td>
<td>✅ Analysis of inter-state variations in migration and their changes</td>
</tr>
<tr>
<td></td>
<td>✅ Interim report submission</td>
</tr>
<tr>
<td>Month 6 – Month 10</td>
<td>✅ Vulnerability Analysis</td>
</tr>
<tr>
<td></td>
<td>✅ Comparing welfare levels among migrant groups</td>
</tr>
<tr>
<td>Month 11 – Month 12</td>
<td>✅ Synthesize the results</td>
</tr>
<tr>
<td></td>
<td>✅ Finalise the research report.</td>
</tr>
</tbody>
</table>

**List of Team members**

The team of researchers are mainly two whose details are mentioned below:

Brinda Viswanathan, 36 years of age, female. She has been teaching for the past 8 years at an institution of higher education. Her research interests include poverty and inequality and its interface with employment and nutrition. She has published in several journals on these issues.

K.Shanthi, 55 years of age, female. She has teaching experience of 30 years at the university level. She has travelled widely presenting papers in conferences and workshops. Her research contributions are published in leading journals dealing with gender issues and migration and have several books to her credit.

The names of two research assistants would be suggested at the time of proposal presentation.

**Capacity Building and Team Strength**

The principal investigator who is an econometrician by training hopes to apply newer econometric techniques for cross-section data analysis and thus add to the existing literature in applied econometrics.

The co-investigator who has already published several articles in this area hopes to further understand the behavioural relationships between women’s work, poverty and their socio-economic status. This would be a beginning to bring a relatively newer area of behavioural
economics into the gender studies. This may also pave way for introduction of a new optional paper for the students of economics and women’s studies.

The two investigators hail from two different institutions and hence a collaborative work of this nature benefits both the institutions in improving the exchange of knowledge and capacity building. Individually the researchers hope to gain greater insights into the themes of the research adding to their research/teaching abilities.

The research assistants would preferably be a PhD students pursuing his/her thesis on this area of research or a fresh post-graduate student intending to study further in this area of research. Hence the aim would be strengthen the theoretical, analytical and econometric application skills of the students involved in the project.

Further contribution is to the vulnerability assessment literature which is attaining significant importance both among academia on how to capture and measure it as well as among policy planners on how to use the information on vulnerable population to ameliorate the impact of any risk on their well-being. We also note that there has not been many studies based on vulnerability analysis in the pep-net projects and hope that this will be open up more studies and discussions within the network.
## Specific Tasks of The Team Members

<table>
<thead>
<tr>
<th>Position</th>
<th>Role</th>
<th>Qualifications</th>
<th>Duration of work</th>
</tr>
</thead>
</table>
| Brinda Vishwanathan, Principal Investigator | ✓ Supervise data tabulation and econometric analysis  
✓ Carry out data analysis for studying inter-state differential in migration pattern and vulnerability analysis.  
✓ Write the research report. | CV attached                                            | For the entire project period beginning from month one |
| K. Shanthi Co-Investigator | ✓ Supervise data collection and tabulation  
✓ Carry out data analysis for studying the changes in migration pattern as well as inter-state analysis.  
✓ Write the research report | CV attached                                            | For the entire project period beginning from month one |
| Research Staff (Two) | One each to assist Profs. Vishwanathan and Shanthi in  
✓ Collecting literature  
✓ Data processing and tabulation  
✓ Econometric Analysis  
✓ Writing the final report | ✓ Has a masters degree in Economics or Statistics  
✓ Background in statistical methods and development economics.  
✓ Fluency in English  
✓ Knowledge of statistical software (STATA) | For the entire project period beginning from month one |
References:


