

The Determinants of Labour Outmigration in Tea Plantation Sector in Badulla District

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Abstract: This study is an attempt to find out the determinants of labour outmigration from tea plantation sector in Badulla district. A simple random sample of 378 households was drawn from the total worker population of the selected tea estates. The data were gathered using pretested questionnaire and a logistic regression model was estimated to find the determinants of migration. Results suggests that experience of household head in tea estate work, family size, total income from tea, number of dependents in a family and race affect the migration decision negatively. Hence higher the non farm income higher will be the propensity to migrate as indicated by the positive coefficient of the non farm income variable.

Keywords: Logistic regression, Outmigration, Tea estate sector.

I. INTRODUCTION

In the nationwide context, the internal migration from rural to urban areas has doubled for the last two decades [16]. In par with this, tea plantation sector of Sri Lanka is now experiencing labour shortages due to labour outmigration and absenteeism of registered resident workers, specially the better educated younger generation [5]. Tea estates sector as being the poorest sector in Sri Lanka, World Bank [16] indicated that the most successful way to move out of poverty is by diversifying the household livelihood portfolio beyond estate employment incorporating non sources of income; skilled and internal or external migration. On the other hand, the people tend to move from backward regions to faster growing areas in search of better opportunities to get rid of their economic problems which are the key motivating factors to migrate [12]. Previous studies [7] on migration argued that household size and type of residency is positively related with the migration decision. Obviously people migrate mostly from the large families because it is easy to select out of members to send to other destinations. When it comes to the Sri Lankan context, the head households in tea estates now are not interested in sending their younger generation to the estate works. The younger generation also has lost their interest in working in tea estates due to several reasons such as low profile stigma, poor sanitary conditions, crowded living condition, and most importantly the low salary. Another pressing factor is that workers do not deserve any higher position in the management hierarchy to suit with their educational level. Therefore they migrate from the sector in searching better opportunities in towns and cities. Due to those facts, the labour outmigration has become an economic issue in the sector. As result, harvesting and other field operations are adversely affected [5]. Decisions regarding off-farm activities like migration are primarily made at household level [17]. However it should be worthwhile mentioning that studies on labour migration issues in the tea sector and especially the household characteristics that affect on the migration decision have not been carried out in this sector. Therefore, we are interested in investigating household characteristics which are assumed to affect members of the household in making the decision to migrate.

II. LITERATURE REVIEW

Studies on labour migration dates back to 1776. Smith [15] and Raveintein [12] in their neoclassical approach of migration assume that individual maximises their utility subject to budget constraint. Their argument was based on the wages. According to this theory, wage differential between sectors and geographical differences in the demand and supply of labour markets causes a migration flow from low wage to high wage regions until it ends as soon as the wage differential between the two regions reflects the cost of movement from the low wage region to the high wage region. This theory suggests that persons choose to migrate when their individual positive gains from the movement exceed the negative. By dropping the neoclassical theory of full employment, most influential model of rural urban migration was suggested by Todaro [18]. This model assumes that migration flows occur in response to urban rural differences in expected income rather than actual earnings. Migrants consider the various labour market opportunities available to them in the rural and urban sectors and choose the one that maximises their expected gains from migration. Income and employment level are the most important variables influencing migration. Consequently, migration trends can be managed by changing these variables. Larson *et al.*, [6] confirms that migration is determined in response to income differentials. As such, the choice between farm and off-farm employment is influenced by inter-sectoral income differentials especially when income in non agriculture sector is sufficiently higher than that in agriculture sector. According to their argument migration is responsive to difference in lifetime expected utility.

One of the major influential factors affecting migration decision is that the poverty and inequality among people in any region in a country. However, World Bank [16] in their research on poverty assessment of Sri Lanka has pointed out that migration can reduce cross regional inequality as people move in response to wage differences and as a result it reduces wage gap. It has been shown by this report that remittances to the migrants' place of origin in lagging economic regions can also reduce regional inequality and migration can better their economic status improving their welfare by diversifying their livelihood portfolio [16]. As migration is a viable opportunity to improve their lifestyles and living standards, family members are left behind often diversify the sources of income thereby reducing income risk and credit constraints of households. People of a certain area may be pushed off by poverty to move towards a town and/or industrial base for employment, while a better employment or higher education facility may pull people to avail these opportunities.

Mincer [10] considers the whole family and examines the influence of wives on the migration decision of families. It is shown by this study that increase in the labour force participation rate of the women lead to increased interdependence of the partner's migration decision. The new economics of labour migration (NELM) also considers the family as decision making unit and perceives migration as a risk sharing behaviour of households. The motives of this theory include the necessity to increase family income, handle household problems and overcome other economic issues raised by credit due to the fact that households' overall income is affected by the remittances sent by the migrants. In the developing countries, migration can also be a group decision due to the absence of social formations such as unemployment insurance, insurance markets for farmers or capital markets. According to the new economics of migration, the principal causes that induce migration are not the differences in the wage systems. Remittances from migration increase the household welfare [8]. Although agricultural production in migrant households may fall due to a

decrease in family labour, the remittances send home can have positive effects on house production and income. Migrants could help relax the households' credit or liquidity constraint by sending back remittances [17]. Migration has a positive and significant relationship on households' income.

Remittances both from internal and international migration are predominantly used to meet daily expenses including food, farm and children's education [11]. In the short term household may use migrant remittances primarily to supplement income. In the long term migration and the remittances of migrants may play a large role in the household's development strategy [17].

Barkeley [1] found that agricultural outmigration increases in non-agricultural incomes and employment rise relative their agricultural counterparts. People's decision to migrate from one place to another may be influenced by many non-economic factors such as, personal maladjustment in the family or community. When maladjustment arises, economic disadvantage may appear as a strong influential or push factor in migration decision of an individual. Mendola [9] showed that household land holdings reduced temporary and internal migration but increased international out-migration in Bangladesh. This is an implication that people do not tend to migrate internally when they own lands as a prestige.

Sjaastad [14] in the human capital model considers migration as an investment decision of an individual. Depending on the individuals' skill level, a person decides to migrate if present discounted value of expected returns of his human capital in every region is higher than the cost of movements. This model has shown that likelihood of migration decreases with age reflecting the smaller lifetime expected gains from moving for older people, and individuals with higher education should exhibit higher migration probability.

In a nut shell, the push factors of rural migration are poverty, low income, small land holdings, lack of jobs and low wages. Pull factors are higher wages for highly skilled or educated laborers, and strong social networks at the potential destination [16].

When the determinants of migration are concerned, marital status, house ownership and existence of migration networks place a significant role. It was noted in many empirical findings that Mincer's idea [10] was supported indicating that married persons should exhibit a smaller migration probability than unmarried individuals. It should be emphasized here that results regarding house ownership were unexpectedly controversial and only in Goss and Schoening [4] and Goss and Paul [3] have been able to obtain the expected negative coefficient reflecting the higher costs of movement for those migrants. However the network variable works only for the international migration. Da Vanzo [2] shows that if a family has a head household who has no an employment, they tend to have more migrants. Since 1980's, most studies have shown that household size as an independent variable has not been found to be associated with migration decision. Root and Jong [13] found that higher education levels of adult members including household head in a family combined with few real estate increases in higher migration rates in some families. None of the studies has considered effect of age of the household head in migration decision.

III. METHODOLOGY

Only twelve tea estates from the Badulla District were selected for this study due to inaccessibility, long distance and resource availability. A list of estate households involved in the production process is drawn from each estate and a simple random sample of household is drawn to have the five percent precision [19]. The sample included 378 households. Pretested questionnaire was used to gather primary data.

To find the determinants on labour outmigration from households of tea estates in Badulla, a logistic regression model is estimated, that is the probability of having a migrant in the household i as a function of a set of household characteristics X_i . Thus the dependent variable is defined as follows:

- $MG=0$, when no member migrates,
- $MG=1$, at least one member migrated during the year 2011.

Ten independent variables were considered in the analysis of determinants of the migration. It should be noted here that many researches have not been carried out to find out the impact of experience household in his job for the decision of his family members on migration.

Table I: The description of explanatory variables

Explanatory variables	Description
ex	experience of household (years) in working in tea estates
hos	home ownership (dummy variable, where hos=1 own a house and 0 = otherwise)
fs	family size (number)
dpndnt	number of dependants
age	years
age ²	years ²
TOTIN	total income from tea estate to the family (Rupees)
NFIN	non farm income to the family (Rupees)
# d1	Tamil household (d1=1 being a Tamil household d1=otherwise)
# d2	Sinhala household (dummy variable, where d2=1 being a Sinhala household d2=otherwise)

* The reference group for the variable d1 and d2 is Muslim households.

Therefore, experience in working in tea estates by household was considered as one explanatory variable and it was measured in years. As, in most cases, age of the household head has not been considered as a significant independent variable, age of household head was taken into account as one of the determinants. On the other hand education level of the household head is expected to affect the migration decision. Therefore, it was also included in the analysis. When the variable home ownership was concerned, the effect of it has not been adequately studied regarding the migration decision. How a person race is affecting the migration has not been studied in any

research so far. Therefore it was also included in the analysis. It is a fact that income from estate work positively affects to the total household income. So is with the non farm income as well. Here the non farm income was defined as any income other than income from tea estate and remittances. As the size of the family in most of the studies has not been found to be linked to the migration decision, it was decided to use this variable this study its impact on migration decision by family members.

IV. RESULTS AND DISCUSSION

According to the descriptive statistics of the sample, about 45.59% of non migrant families live in their own families and the rest lives in lines. In comparison to non migrant families, about 50% of the families own a house while the rest lives in lines. Average number of family members in both types of families is five persons per family. However average number of working family members including the employment status of the migrant is 2.34 persons a family in migrant families whereas it is 1.67 persons in non migrant families. Results also show that total income of migrant families is higher than that of non migrant families as a result of the remittance effect. On the other hand 46% of the worker families consist of at least one migrant and about 80% of the migrants are males and their age is between 20 and 40 years. The mean age of the migrants is 33 years whereas mean education level of migrant is eight years. About 36% of those people have migrated to nearby cities while 31% and 6% have migrated to capital city and abroad respectively. Most of the workers in the sample observe Hindu as their religion followed by other religion; Buddhism, Islam, and Christianity. According to the results, the major reasons for migration from estate sector are economic problems due to low salary, low profile stigma attached to workers, diversifying livelihood portfolio, employment abroad (house maids), possession of national identity cards, and better education earned by migrants.

Table 2: The results of the logistic regression model of determinants of migration

Explanatory variable	Coefficient	Z-Value	Marginal Effect	Std. Err.	Odd Ratio
Intercept	8.7827				
ex	-0.1158***	-3.3	-0.0285	0.0088	0.8906
hos	0.0984	0.27	0.0242	0.0907	1.1034
fs	4.4707***	8.67	1.0987	0.1262	87.421
dpndnt	-4.5878***	-8.91	-1.1275	0.1261	0.0102
age	0.2016*	1.81	0.0495	0.0275	1.2233
age ²	-0.0013	-1.12	-0.0003	0.0003	0.9987
TOTIN	-0.0005***	-8.65	-0.0001	0.0000	0.9995
NFIN	0.0006***	4.18	0.0001	0.0000	1.0006
# dl	-16.6130***	-6.24	-0.8293	0.0398	6.1x10 ⁻⁸
# d2	-15.4549***	-5.67	-0.7158	0.0566	1.94x10 ⁻⁷

reference group is Muslims

Pseudo R²; 59.03% ; n = 378; ***p < 0.01 ; **p < 0.05; *p < 0.10

The main objective of this study is to identify the determinants of labour outmigration from tea estate sector. Here we have considered outmigration as labour movement from estate to nearby cities, capital city, other major cities and temporary international migration as housemaids to Middle East countries. Presence of migrant in a family is assumed to depend on the family characteristics, income earned of the households earned from the estate and other non farm sources. It is a fact that labor movement was restricted due to being Tamil workers in the estate. However, as Tamil labourers acquired national identity card, migration could be assumed to increase due to the freedom of movement. Therefore, race also was considered as a predictor.

Results of the logistic regression (see Table 2) suggests that seven variables (ex, fs, dpndnt, TOTIN, NFIN, d1, d2) have become statistically significant. According to the results, five variables (ex, dpndnt, TOTIN, d1, d2) are negatively related to the existence of at least one migrant in the family during the year 2011 at 99% significant level whereas the variables, family size and age of the household head are positively related to the existence of at least one migrant in the family at 99% and 90% significant levels respectively. Existing at least one migrant means, migrants' decision to move from the tea estate sector has positively or negatively been affected by those predictors.

It is quite evident from these results that, when there is no migrant in a family their income from estate increases as that person is also supposed to work in the family. This is a direct implication that if they do not have a migrant in the family their main income source is income from estate. However the estate workers always complain that their salary is not sufficient for their living therefore their family members look for better opportunities outside the estate. When more migration occurs, contribution to the family income from estate decreases. The question arises here is whether all these migrants send remittances home. If these migrants do not send remittance home it will lead to worsening of the family income situation. The variable non farm income is also statistically significant at 99% significant level and according to positive sign of the coefficient, when there is at least one migrant in a family, tendency to have non farm income increases. If it is put in the other way round, when there is more non farm income, household tend to migrate. This may be due to the fact that non farm income sources are more lucrative than the income from tea estate. Therefore these people may be discouraged to work in the tea estates and may decide to move from the sector as more lucrative opportunities are available. It also implies that having a non farm source of income adds to the total household income and no need to depend on the estate work. Therefore they tend to stay away from estate work. This has generated a negative impact on working in estates. Therefore those people may choose either to work outside the estates or to generate income from some other source like vegetable cultivation, livestock, masonry, carpentry etc. Hence, this finding suggests that people would prefer to diversify their income sources through different nonfarm sources.

Coefficient for the predictor, age of the household head, is positive and it is significant at 90% significant level. This implies that if the household head is a very old person, tendency to have at least one migrant in a family increases. But, when the experience of the household head in tea estate work increases the tendency to have at least one migrant in a family decreases. Though this is bit of a controversial matter, its implication is that more estate workers are experienced workers though their younger generation does not like to work in the estates. Descriptive statistics clearly shows that average age of the workers is 42.

Sri Lankan tea estate sector is characterized by three races namely Tamil, Sinhala, and Muslim. d1 and d2 are dummy variables for the race. d1 represents Tamil and d2 represent Sinhala. Benchmark or the reference group is Muslim. All Muslim families had at least one migrant in their families. This implies that probability of migration in Muslim families is 100%. Therefore, in comparison to Muslim people, the probability of migration is less in Tamil and Sinhalese families. Apart from those findings, the family size affects the migration decision positively implying that higher the family size, higher will be the tendency to at least have one migrant in the family. It is also noted that when number of dependants in a family is higher, the propensity to have at least one migrant in a family decreases. Here, the number of dependents is mostly the workers' children schooling and staying at home. According this finding, it is clear that when more depends are their schooling children, they tend not to migrate.

V. CONCLUSION

The analysis of survey data indicated that major determinants to have at least one migrant in the family are experience of household head in tea estate work, family size, total income from tea, number of dependents in a family, non farm income and race. This is an indication that these factors have affected migration decision.

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