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## Key Contributing Factors to the Migration of Tribes of Tamil Nadu, India

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### **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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### **ABSTRACT**

Tribes are indigenous with a distinctive culture, geographically isolated and are low in socio-economic indicators like literacy rate, per capita income, infant mortality rate etc. For centuries, the tribal groups have remained outside the realm of the general development process due to their habitation in forests and hilly tracts. This lead to poor infrastructure and development facilities in tribal areas for education, roads, healthcare, communication, drinking water, sanitation etc. and has resulted in further widening the gaps of development between the tribals and the general population for a long time. The natural resources are being exploited in a way, which leads to gradual displacement and denying the basic right of livelihood to the tribes. This paper intends to analyse the factors behind this displacement of tribes from their forest settings. Kanyakumari district of Tamil Nadu was selected for the study with 100 migrant tribes as respondents by following Proportionate random sampling technique. Ex post facto research design was adopted with multinomial logistic regression for analysis. Totally, ten m-logit equations were derived from analysis and the results are interpreted. The chance of being a permanent migrant was 4.23 and 3.11 times lesser for married and large family migrants respectively. The encouragement to stay in the workplace by the family members of migrants was 0.59, 0.94 and 0.80 times lesser for migrants in the order of higher educational status, joint families and greater achievement motivation in life. Migrants with better

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educational status were likely to remigrate 0.91 times longer than 10 years. Also, the old aged migrants, migrants with higher occupational status, higher risk orientation and greater comfort expectancies possibly remigrate 2.50, 1.59, 1.24 and 1.43 times earlier than 10 years respectively. These identified facts are crucial for developing policies related to tribal development and hence can be considered as an input for Tribal policy formulation.

**Keywords:** *Migration; tribes; policy; facts; natural resources.*

## 1. INTRODUCTION

Tribes are ethnic groups native to a land or region. Usually they have a close relation to the land and live in consonance with nature following unique tradition from time immemorial. After independence, Government of India has scheduled the tribal groups in the Constitution and provided special provisions for their welfare and development. There are about 654 tribal communities across the states in India and 75 of the tribes are most backward and are termed as Primitive Tribal Groups. Most of the tribal areas are hilly, inaccessible undulating plateau lands in the forest areas of the country resulting in the failure of general developmental programmes.

A majority of tribal groups work in the primary sector of Agriculture as cultivators or labourers. Since the nineteenth century, a number of tribes are abandoning their traditional farming and are employed as contract labourers in plantations or in mines and factories. Forced migration has also led to an increasing number of tribes working as contract labourers in the construction industry and as domestic workers in major cities. Over 80 per cent of tribes work in the primary sector against 53 per cent of the general population, primarily as cultivators. However, the number of tribes who were cultivators, declined from over 68 per cent to 45 per cent in 2001 whereas the number of tribal agricultural labourers increased from about 20 per cent to 37 per cent, demonstrating increasing landlessness among tribals. It is further estimated that, in the last decade, about 3.5 million tribal people were leaving agriculture and agriculture-related activities to enter the informal labor market [1].

Society of Regional Research and Analysis (2010) in its report revealed that most of the natural resources including minerals are located in tribal areas. Tribals are being alienated from their land and forest due to the ongoing deforestation, hydro-electric power generation, industrial growth and mining activities [2]. Humanitarian Foresight Think Tank (2016) report

also explained the dependence of tribes to forest lands. An essential characteristic of the tribal lifestyle and values is associated with forests, in a relationship traditionally presented as of mutual benefit and co-dependence [3]. The question on remigration of these tribes is often unanswered by research studies. Uri and Mona [4] discussed the difference between forced and voluntary migration as adjustment to new conditions may take longer, and may require more support from the host community or from others for forced migration whereas for voluntary migrants the adjustment time will be lower than forced migrants.

This study is aimed at investigating the facts behind this mass migration of tribes in India and thereby aid the policy makers.

## 2. METHODOLOGY

Kanyakumari district was selected for the study, owing to the following feature. Though it is the smallest district in Tamil Nadu by area (1672 sq. km.) next to Chennai, it is the most urbanised district according to the 2011 census report [5]. The district has recorded second largest urban population of 82.30 per cent to the total population among the districts. District decennial growth also shows that the total population growth rate from 2001 – 2011 is 11.17 per cent, of which the growth rate of rural population has declined by 43.89 per cent and urban population has grown by 40.46 per cent [6].

Between 1991 and 2001, the overall district population growth rate is just 4.73 percent, while the tribal population growth rate is 4.21 percent and in 2001 – 2011, the overall district population growth rate is 11.60 per cent, whereas the tribal population growth rate is 33.8 per cent (Rural – 5.1% and Urban – 88.2%).

Out of the 36 tribes in the state, there are six tribes in Kanyakumari district. Of these the Kanikaran tribe dominates three – fourth of the tribal population with 5571 Kanikkars [7], out of the total tribal population of around 7282 [8].

**Table 1. List of independent and dependent variables**

| S. no.                          | Variables              | Scoring procedure followed  |
|---------------------------------|------------------------|---|
| <b>A. Independent variables</b> |                        |   |
| 1.                              | Age                    | Followed by Anamica (2010) [9]                                    |
| 2.                              | Gender                 | Followed by Anamica (2013) [10]                                   |
| 3.                              | Educational status     | Developed by Mansingh (1993) [11]                                 |
| 4.                              | Occupational status    | Followed by Anamica (2010)  |
| 5.                              | Marital status         | Adopted by Asokhan (1996) [12]                                    |
| 6.                              | Nature of family       | Developed by Trivedi (1963) [13]                                  |
| 7.                              | Economic Motivation    | Followed by Vanetha (2008) [14]                                   |
| 8.                              | Achievement Motivation | Developed by Steers and Braunstein (1976) [15]                    |
| 9.                              | Risk Orientation       | Developed by Supe (1969) [16]                                     |
| 10.                             | Comfort expectancy     | Developed by De Jong (2000) [17]                                  |
| 11.                             | Material status        | Developed by Mansingh (1993)                                      |
| <b>B. Dependent variable</b>    |                        |   |
| 1.                              | Migration Behaviour    |   |
| a.                              | Nature of migration    |   |
| b.                              | Migration network      | Adopted by Ramasubramaniam (2004) [18] and modified for the study |
| c.                              | Type of migration      |   |
| d.                              | Family Migration norm  |   |
| e.                              | Remigration            |   |

Hence, the Kanikaran or Kanikkar tribe was selected for the study of migration.

Since the demographics of Kanikaran tribes is available only in forest range – wise, tribal mother settlements in each forest range is considered as a sampling unit instead of villages. Out of the five forest ranges in Kanyakumari district, four forest ranges namely, Kulasekharam, Kaliyal, Velimalai and Azhakiyapandipuram forest ranges are inhabited by Kanikaran tribes. From each of these four forest ranges, one tribal mother settlement with maximum population was selected for the study. The total sample size fixed was 100 and by following proportionate random sampling technique, the migrant respondents are sampled as follows - 40 from Thachamalai, 39 from Arukani, 15 from Puravilai and 6 from Vellamby malai tribal settlements.

## 2.1 Selection of Variables

The independent variables relevant to the study were initially identified based on the review of literature and discussion with experts. A pilot study was conducted in non-sample area. A list of 17 variables that might possibly influence the dependent variable migration behaviour was finalized by Judges' opinion method. These

variables were evaluated for their relevancy by requesting 25 behavioural and extension scientists to rate them on a three point continuum viz, Most Relevant, Relevant and Not Relevant.

Based on the rating by judges, 11 independent variables and 5 sub components of dependent variable are selected as listed in above Table 1. Data collection was carried out by structured interview method from January 2017 to April 2017 and all the variables were operationalized by adopting from past studies.

## 3. RESULTS AND DISCUSSION

The contribution of independent variables towards each dependent variable were analyzed separately and are explained under each subtitles.

### 3.1 Contribution of Independent Variables to Nature of Migration

The logit model for the contribution of independent variables to the subcomponent nature of migration of dependent variable migration behaviour is illustrated in Table 2. The obtained regression equations are also given below Table 2.

**Table 2. Multinomial logistic regression for nature of migration**

| S. no.   | Independent variables  | Odds ratio | Standard error | Probability P >  z |
|--|------------------------|------------|----------------|--------------------|
| <b>Category 1 – Permanent migration</b>                |                        |            |                |                    |
| 1.   | Age                    | 1.20       | 2.01           | 0.55               |
| 2.   | Gender                 | -16.61     | 1663.44        | 0.99               |
| 3.   | Educational status     | 0.79       | 1.07           | 0.45               |
| 4.   | Occupational status    | -5.04      | 3.23           | 0.11               |
| 5.   | Nature of family       | 1.26       | 1.38           | 0.36               |
| 6.   | Marital status         | -4.23      | 2.71           | 0.10***            |
| 7.   | Family size            | -3.11      | 1.68           | 0.04**             |
| 8.   | Material status        | 0.61       | 1.22           | 0.61               |
| 9.   | Economic motivation    | 1.30       | 1.18           | 0.26               |
| 10.  | Achievement motivation | 2.48       | 1.60           | 0.12               |
| 11.  | Risk orientation       | 1.98       | 1.34           | 0.14               |
| 12.  | Comfort expectancy     | 0.26       | 1.19           | 0.82               |
| <b>Category 2 – Temporary migration (Base outcome)</b> |                        |            |                |                    |
| <b>Category 3 – Commuting</b>                          |                        |            |                |                    |
| 1.   | Age                    | -0.22      | 0.71           | 0.75               |
| 2.   | Gender                 | 0.54       | 0.55           | 0.32               |
| 3.   | Educational status     | -0.35      | 0.32           | 0.27               |
| 4.   | Occupational status    | -0.52      | 0.63           | 0.41               |
| 5.   | Nature of family       | -0.35      | 0.58           | 0.53               |
| 6.   | Marital status         | -0.81      | 1.14           | 0.47               |
| 7.   | Family size            | 0.53       | 0.58           | 0.36               |
| 8.   | Material status        | -0.05      | 0.44           | 0.89               |
| 9.   | Economic motivation    | 0.28       | 0.40           | 0.47               |
| 10.  | Achievement motivation | -1.15      | 0.42           | 0.007**            |
| 11.  | Risk orientation       | -0.66      | 0.51           | 0.19               |
| 12.  | Comfort expectancy     | -0.88      | 0.46           | 0.05**             |

\*\* - Significant at 5% level of significance, \*\*\* - Significant at 10% level of significance

Output: STATA

N = 100

LR  $\chi^2$  (24) = 44.48

Pseudo  $R^2$  = 0.259

Log Likelihood = -63.60

Probability >  $\chi^2$  = 0.0067

$Y_1 = 10.18 - 4.23X_6 - 3.11X_7$  (Permanent migration vs. Temporary migration) (1)

$Y_1 = 7.155 - 1.151X_{10} - 0.889X_{12}$  (Commuting vs. Temporary migration) (2)

It can be understood from the Table 2 that the multinomial logistic regression resulted with 1, 2 and 3 categorical outcomes. Since the pseudo  $R^2$  value was only 25 per cent, it showed that the explanatory variables were explaining only 25 per cent of the variability in the dependent variable. The likelihood ratio was 63.60, showing that it was significant at 10 percent level of significance. Among the independent variables, marital status and family size were significant at 10 per cent and 5 per cent level of significance respectively for permanent migration vs. temporary migration. This implies that there is lesser chance for

married migrants and migrants with larger families to be permanent migrants. The first regression equation shows that the chance of being a permanent migrant is 4.23 and 3.11 times lesser for married and large family migrants.

In commuting vs. temporary migration, achievement motivation and comfort expectancy were significant at 5 per cent level of significance. This implies that there is lesser chance for migrants with high achievement motivation and comfort expectancy to commute regularly for work. The second regression equation shows that the chance of being a commuter is 1.15 and 0.889 times lesser for migrants with high achievement motivation and comfort expectancy.

### 3.2 Contribution of Independent Variables to Type of Migration

There are four types of migration prevalent among any social groups – Forced migration,

Return migration, Skilled migration and Seasonal migration. Forced migration or distress migration refers to the migration of individuals against their own wishes. Return migration means the individuals migrate with the aim of short term earnings and relocate back to their native. Skilled migration is defined as the type of migration where an individual migrate on acquiring specialised skills either through education or experience. When an individual migrate during one season of a year and work in the native during the next season, he is termed as a seasonal migrant. The logit model for the contribution of independent variables to the subcomponent type of migration of dependent variable migration behaviour is illustrated in Table 3. The obtained regression equations are also given hereunder.

N = 100  
 LR chi<sup>2</sup> (36) = 61.76  
 Pseudo R<sup>2</sup> = 0.226  
 Log Likelihood = -105.59  
 Probability > chi<sup>2</sup> = 0.004

$$Y_2 = 4.10 + 0.846X_9 \text{ (Forced migration vs. Return migration)} \quad (3)$$

$$Y_2 = 3.372 - 2.494X_4 \text{ (Skilled vs. Return migration)} \quad (4)$$

$$Y_2 = 4.54 - 2.127X_1 - 0.831X_3 \text{ (Seasonal migration vs. Return migration)} \quad (5)$$

It can be understood from the Table 3 that the multinomial logistic regression resulted with 1, 2, 3 and 4 categorical outcomes. Since the pseudo R<sup>2</sup> value was only 22 percent, it showed that the explanatory variable were explaining only 22 percent of the variability in the dependent variable. The likelihood ratio was 105, showing that it was significant at 10 percent level of significance. Among the independent variables, only economic motivation was significant at 10 per cent level of significance for forced migration vs. return migration. This implies that there is greater chance for migrants with high economic motivation to be forced migrants. The third regression equation shows that the chance of being a forced migrant is 0.84 times greater for highly economic oriented migrants.

In skilled vs. return migration, only occupational status was significant at 1 per cent level of significance. This implies that there is lesser chance for migrants with high occupational status to undertake skilled migration. The fourth regression equation shows that the chance of

being a skilled migrant is 2.49 times lesser for migrants with high occupational status.

In the case of seasonal vs. return migration, age and educational status were significant at 5 per cent and 10 percent level of significance. This implies that there is lesser chance for old aged migrants and migrants with higher educational status to undertake seasonal migration. The fifth regression equation shows that the chance of being a seasonal migrant is 2.12 and 0.83 times lesser for migrants above 45 years of age and migrants with higher educational status.

### 3.3 Contribution of Independent Variables to Migration Network

The logit model for the contribution of independent variables to the subcomponent migration network of dependent variable migration behaviour is illustrated in Table 4. The obtained regression equations are also given.

N = 100  
 LR chi<sup>2</sup> (36) = 43.42  
 Pseudo R<sup>2</sup> = 0.206  
 Log Likelihood = -83.20  
 Probability > chi<sup>2</sup> = 0.184

$$Y_3 = 2.013 - 1.027X_9 + 1.035X_{12} \text{ (Relations vs. Friends)} \quad (6)$$

$$Y_3 = 12.744 - 3.19X_1 - 3.31X_5 + 2.57X_7 - 2.15X_{12} \text{ (Neighbours vs. Friends)} \quad (7)$$

$$Y_3 = 11.788 - 2.03X_1 + 1.28X_9 - 2.13X_{12} \text{ (Agencies vs. Friends)} \quad (8)$$

It can be understood from the Table 4 that the multinomial logistic regression resulted with 1, 2, 3 and 4 categorical outcomes. Since the pseudo R<sup>2</sup> value was only 20 percent, it showed that the explanatory variable were explaining only 20 percent of the variability in the dependent variable. The likelihood ratio was 83, indicating that it was significant at 10 percent level of significance. Among the independent variables, economic motivation and comfort expectancy were significant at 5 per cent and 10 per cent level of significance for relations vs. friends. This implies that there is lesser chance for migrants with high economic motivation to migrate with the help of relatives. Further, it can also be interpreted as there is greater chance for migrants expecting greater comfortness to migrate with the help of relatives. The sixth regression equation shows that the chances of migrating with the help of relatives is 1.02 times

lesser for migrants with higher economic motivation. Also, the chances of migrating with the assistance of relations is 1.03 times greater for migrants expecting greater comfortness.

In neighbours vs. friends, age, nature of family, family size and comfort expectancy were significant at 10 per cent level of significance. This implies that there is lesser chance for old aged migrants, migrants expecting greater

comfort and migrants belonging to joint family to migrate by the influence of neighbours. Moreover, the migrants belonging to larger families possess greater chances of migrating with the help of neighbours. The seventh regression equation shows that the chances of migrating with the help of neighbours is 3.19, 3.31 and 2.15 times lesser for old aged, belonging to joint family and greater comfort expecting migrants. Further, it is 2.57 times

**Table 3. Multinomial logistic regression for type of migration**

| S. no.  | Independent variables  | Odds ratio | Standard error | Probability $P >  z $ |
|---|------------------------|------------|----------------|-----------------------|
| <b>Category 1 – Forced migration</b>                |                        |            |                |                       |
| 1.  | Age                    | 0.63       | 0.91           | .48                   |
| 2.  | Gender                 | 0.04       | 0.72           | .95                   |
| 3.  | Educational status     | -0.20      | 0.42           | .63                   |
| 4.  | Occupational status    | 0.88       | 0.83           | .29                   |
| 5.  | Nature of family       | -0.47      | 0.77           | .54                   |
| 6.  | Marital status         | 0.96       | 1.44           | .50                   |
| 7.  | Family size            | 0.61       | 0.77           | .42                   |
| 8.  | Material status        | 0.46       | 0.64           | .46                   |
| 9.  | Economic motivation    | -0.84      | 0.53           | .11***                |
| 10.   | Achievement motivation | 0.31       | 0.47           | .50                   |
| 11.   | Risk orientation       | -0.04      | 0.59           | .93                   |
| 12.   | Comfort expectancy     | 0.36       | 0.66           | .58                   |
| <b>Category 2 – Return migration (Base outcome)</b> |                        |            |                |                       |
| <b>Category 3 – Skilled migration</b>               |                        |            |                |                       |
| 1.  | Age                    | -1.25      | 1.14           | .27                   |
| 2.  | Gender                 | -0.42      | 0.92           | .65                   |
| 3.  | Educational status     | -0.64      | 0.54           | .24                   |
| 4.  | Occupational status    | 2.49       | 0.93           | .008*                 |
| 5.  | Nature of family       | -0.10      | 0.90           | .90                   |
| 6.  | Marital status         | 0.96       | 1.40           | .49                   |
| 7.  | Family size            | -1.18      | 0.95           | .21                   |
| 8.  | Material status        | 0.42       | 0.68           | .53                   |
| 9.  | Economic motivation    | 0.63       | 0.67           | .35                   |
| 10.   | Achievement motivation | -0.04      | 0.65           | .94                   |
| 11.   | Risk orientation       | 0.68       | 0.73           | .34                   |
| 12.   | Comfort expectancy     | 0.37       | 0.72           | .60                   |
| <b>Category 4 – Seasonal migration</b>              |                        |            |                |                       |
| 1.  | Age                    | 2.12       | 0.93           | .02**                 |
| 2.  | Gender                 | 0.36       | 0.67           | .58                   |
| 3.  | Educational status     | 0.83       | 0.44           | .06***                |
| 4.  | Occupational status    | 0.63       | 0.85           | .46                   |
| 5.  | Nature of family       | 0.19       | 0.75           | .79                   |
| 6.  | Marital status         | 0.50       | 1.49           | .73                   |
| 7.  | Family size            | -0.54      | 0.71           | .44                   |
| 8.  | Material status        | -0.45      | 0.56           | .41                   |
| 9.  | Economic motivation    | -0.23      | 0.49           | .64                   |
| 10.   | Achievement motivation | -0.41      | 0.45           | .36                   |
| 11.   | Risk orientation       | -0.71      | 0.61           | .24                   |
| 12.   | Comfort expectancy     | 0.004      | 0.62           | .99                   |

\* - Significant at 1% level of significance, \*\* - Significant at 5% level of significance

\*\*\* - Significant at 10% level of significance, Output: STATA

**Table 4. Multinomial logistic regression for migration network**

| S. no.                                     | Independent variables  | Odds ratio | Standard error | Probability P >  z |
|--|------------------------|------------|----------------|--------------------|
| <b>Category 1 – Relations</b>              |                        |            |                |                    |
| 1.   | Age                    | -0.11      | 0.89           | .90                |
| 2.   | Gender                 | -0.26      | 0.71           | .70                |
| 3.   | Educational status     | 0.00       | 0.41           | .99                |
| 4.   | Occupational status    | 1.19       | 0.84           | .15                |
| 5.   | Nature of family       | -0.02      | 0.70           | .96                |
| 6.   | Marital status         | 0.09       | 1.55           | .95                |
| 7.   | Family size            | 0.82       | 0.74           | .26                |
| 8.   | Material status        | -0.02      | 0.55           | .95                |
| 9.   | Economic motivation    | 1.02       | 0.49           | .03**              |
| 10.  | Achievement motivation | 0.14       | 0.41           | .72                |
| 11.  | Risk orientation       | 0.44       | 0.61           | .47                |
| 12.  | Comfort expectancy     | -1.03      | 0.66           | .10***             |
| <b>Category 2 – Friends (Base outcome)</b> |                        |            |                |                    |
| <b>Category 3 – Neighbours</b>             |                        |            |                |                    |
| 1.   | Age                    | -3.19      | 1.96           | .10***             |
| 2.   | Gender                 | 0.86       | 1.29           | .50                |
| 3.   | Educational status     | 0.32       | 0.81           | .69                |
| 4.   | Occupational status    | -1.61      | 1.59           | .31                |
| 5.   | Nature of family       | -3.31      | 1.76           | .06***             |
| 6.   | Marital status         | -1.12      | 2.44           | .64                |
| 7.   | Family size            | 2.57       | 1.70           | .10***             |
| 8.   | Material status        | -1.81      | 1.36           | .18                |
| 9.   | Economic motivation    | 0.79       | 0.98           | .41                |
| 10.  | Achievement motivation | -1.23      | 1.16           | .28                |
| 11.  | Risk orientation       | 1.19       | 1.21           | .32                |
| 12.  | Comfort expectancy     | -2.15      | 1.14           | .06***             |
| <b>Category 4 – Agencies</b>               |                        |            |                |                    |
| 1.   | Age                    | -2.03      | 1.23           | .09***             |
| 2.   | Gender                 | 1.20       | 0.94           | .20                |
| 3.   | Educational status     | -0.44      | 0.57           | .44                |
| 4.   | Occupational status    | -0.60      | 1.10           | .58                |
| 5.   | Nature of family       | -0.03      | 1.01           | .97                |
| 6.   | Marital status         | -1.90      | 1.89           | .31                |
| 7.   | Family size            | -0.02      | 0.96           | .97                |
| 8.   | Material status        | -0.62      | 0.77           | .41                |
| 9.   | Economic motivation    | 1.28       | 0.67           | .05**              |
| 10.  | Achievement motivation | -0.48      | 0.66           | .46                |
| 11.  | Risk orientation       | 0.005      | 0.77           | .99                |
| 12.  | Comfort expectancy     | -2.13      | 0.90           | .01**              |

\*\* - Significant at 5% level of significance, \*\*\* - Significant at 10% level of significance

Output: STATA

greater for migrants belonging to larger families i.e. families with more than 5 members.

In the case of agencies vs. friends, age, economic motivation and comfort expectancy were significant at 10 per cent, 5 per cent and 5 per cent level of significance respectively.

This implies that there is lesser chance of migrating through agencies for migrants above the age of 45 years and migrants expecting

greater comfortness. Further, it can also be interpreted as there is greater chance of migrating through agencies for migrants with higher economic motivation. The eighth regression equation shows that the chances of migrating with the aid of agencies is 2.03 and 2.13 times lesser for old aged and greater comfort expecting migrants respectively. Moreover, the chances of migrating with the help of agencies is 1.28 times greater for migrants with higher economic motivation.

### 3.4 Contribution of Independent Variables to Family Migration Norm

The logit model for the contribution of independent variables to the subcomponent nature of migration of dependent variable family migration norm is illustrated in Table 5. The obtained regression equation is also given hereunder as equation 9.

N = 100

LR chi<sup>2</sup> (24) = 100.26

Pseudo R<sup>2</sup> = 0.529

Log Likelihood = -44.55

Probability > chi<sup>2</sup> = 0.000

$$Y_4 = 260.38 - 0.59X_3 - 0.94X_5 - 0.806X_{10} \text{ (Encourage to stay vs. No idea)} \quad (9)$$

It can be understood from the Table 5 that the multinomial logistic regression resulted with 1, 2 and 3 categorical outcomes. Since the pseudo R<sup>2</sup> value was 52 percent, it showed that the explanatory variable were explaining 52 percent

of the variability in the dependent variable. The likelihood ratio was 44, indicating that it was significant at 10 percent level of significance. For not encourage to stay vs. no idea, none of the independent variables were significant.

In the case of encourage to stay vs. no idea, the independent variables educational status, nature of family and achievement motivation were significant at 10 per cent, 10 per cent and 5 per cent level of significance respectively. This implies that the migrants with lesser educational status, migrants belonging to nuclear family and migrants with low achievement motivation were generally encouraged to stay in the workplace by their respective families. The regression equation number 9 can be interpreted as the encouragement to stay in the workplace by the family members of migrants is 0.59, 0.94 and 0.80 times lesser for migrants with higher educational status, joint families and greater achievement motivation.

**Table 5. Multinomial logistic regression for family migration norm**

| S. no.                                     | Independent variables  | Odds ratio | Standard error | Probability P >  z |
|--|------------------------|------------|----------------|--------------------|
| <b>Category 1 – Not encourage to stay</b>  |                        |            |                |                    |
| 1.   | Age                    | -0.29      | 7654.94        | 1.00               |
| 2.   | Gender                 | -68.39     | 15594.2        | .99                |
| 3.   | Educational status     | -100.88    | 9562.7         | .99                |
| 4.   | Occupational status    | 15.20      | 16491          | .99                |
| 5.   | Nature of family       | 67.70      | 7212.68        | .99                |
| 6.   | Marital status         | -85.01     | 33851.1        | .99                |
| 7.   | Family size            | -2.95      | 6822.57        | 1.00               |
| 8.   | Material status        | 100.08     | 9673.43        | .99                |
| 9.   | Economic motivation    | 33.85      | 4208.28        | .99                |
| 10.  | Achievement motivation | -66.81     | 6870.9         | .99                |
| 11.  | Risk orientation       | 67.00      | 8337.66        | .99                |
| 12.  | Comfort expectancy     | 135.28     | 13174.4        | .99                |
| <b>Category 2 – No Idea (Base outcome)</b> |                        |            |                |                    |
| <b>Category 3 – Encourage to Stay</b>      |                        |            |                |                    |
| 1.   | Age                    | 0.07       | 0.81           | .93                |
| 2.   | Gender                 | -0.74      | 0.57           | .19                |
| 3.   | Educational status     | 0.59       | 0.40           | .10***             |
| 4.   | Occupational status    | -0.49      | 0.75           | .51                |
| 5.   | Nature of family       | 0.94       | 0.72           | .10***             |
| 6.   | Marital status         | -1.72      | 1.38           | .21                |
| 7.   | Family size            | -0.68      | 0.68           | .31                |
| 8.   | Material status        | 0.48       | 0.55           | .37                |
| 9.   | Economic motivation    | 0.56       | 0.45           | .21                |
| 10.  | Achievement motivation | 0.80       | 0.41           | .05**              |
| 11.  | Risk orientation       | 0.36       | 0.58           | .52                |
| 12.  | Comfort expectancy     | 0.20       | 0.49           | .67                |

\*\* - Significant at 5% level of significance, \*\*\* - Significant at 10% level of significance,

Output: STATA

### 3.5 Contribution of Independent Variables to Remigration

The logit model for the contribution of independent variables to the subcomponent remigration of dependent variable migration behaviour is illustrated in Table 6. The obtained regression equation is also given as equation 10.

N = 100  
 LR chi<sup>2</sup> (24) = 125.93  
 Pseudo R<sup>2</sup> = 0.644  
 Log Likelihood = -34.67  
 Probability > chi<sup>2</sup> = 0.000

$$Y_5 = 13.27 - 2.50X_1 + 0.91X_3 - 1.59X_4 - 1.244X_{11} - 1.43X_{12} \quad (\text{More than 10 years vs. Between 5 to 10 years}) \quad (10)$$

It can be understood from the Table 6 that the multinomial logistic regression resulted with 1, 2 and 3 categorical outcomes. Since the pseudo

R<sup>2</sup> value was 64 percent, it showed that the explanatory variable were explaining 64 percent of the variability in the dependent variable. The likelihood ratio was 34, indicating that it was significant at 10 per cent level of significance. From the Table 6, it can be inferred that age, educational status and comfort expectancy were significant at 5 per cent level of significance. Also, occupational status and risk orientation are significant at 10 per cent level of significance. Hence, the tenth regression equation can be explained as follows. The likely remigration of migrants is more than 10 years in case of migrants with greater education status. It is the reverse in the case of old aged migrants, migrants with greater occupational status and migrants with higher risk orientation and comfort expectancy.

Migrants with better educational status are likely to remigrate 0.91 times more than 10 years. Moreover, the old aged migrants, migrants with

**Table 6. Multinomial logistic regression for remigration**

| S. no.   | Independent variables  | Odds ratio | Standard error | Probability P >  z |
|--|------------------------|------------|----------------|--------------------|
| <b>Category 1 – More than 10 years</b>                   |                        |            |                |                    |
| 1.   | Age                    | -2.50      | 1.17           | .03**              |
| 2.   | Gender                 | 0.03       | 0.68           | .96                |
| 3.   | Educational status     | 0.91       | 0.45           | .04**              |
| 4.   | Occupational status    | -1.59      | 0.99           | .10***             |
| 5.   | Nature of family       | 0.10       | 0.78           | .89                |
| 6.   | Marital status         | -2.24      | 1.54           | .14                |
| 7.   | Family size            | 0.92       | 0.73           | .20                |
| 8.   | Material status        | -0.87      | 0.68           | .20                |
| 9.   | Economic motivation    | 0.38       | 0.58           | .51                |
| 10.  | Achievement motivation | -0.57      | 0.51           | .26                |
| 11.  | Risk orientation       | -1.24      | 0.69           | .07***             |
| 12.  | Comfort expectancy     | -1.43      | 0.62           | .02**              |
| <b>Category 2 – Between 5 to 10 years (Base outcome)</b> |                        |            |                |                    |
| <b>Category 3 – Within 5 years</b>                       |                        |            |                |                    |
| 1.   | Age                    | 49.60      | 11212.4        | .99                |
| 2.   | Gender                 | -7.16      | 12786.7        | 1.00               |
| 3.   | Educational status     | -9.47      | 4564.79        | .99                |
| 4.   | Occupational status    | 44.17      | 19678.2        | .99                |
| 5.   | Nature of family       | 6.06       | 6146.1         | 1.00               |
| 6.   | Marital status         | 8.15       | 38855.7        | .99                |
| 7.   | Family size            | -16.46     | 7397.89        | .99                |
| 8.   | Material status        | 12.92      | 7862.17        | 1.00               |
| 9.   | Economic motivation    | -2.00      | 7500.87        | .99                |
| 10.  | Achievement motivation | 20.05      | 6253.79        | .99                |
| 11.  | Risk orientation       | -24.07     | 9995.98        | .99                |
| 12.  | Comfort expectancy     | 14.04      | 8831.53        | .99                |

\*\* - Significant at 5% level of significance, \*\*\* - Significant at 10% level of significance,  
 Output: STATA

higher occupational status, higher risk orientation and greater comfort expectancies possibly remigrate 2.50, 1.59, 1.24 and 1.43 times earlier than 10 years.

#### 4. CONCLUSION

The derived results have one general fact that migration is high among young tribal population mainly for employment till they get married. Also, most of them are willing to relocate to their settlements in a shorter period and this period fluctuates based on their income in the present occupation. The researcher suggests for the exploitation of these results in tribal policy formulation. One of the major limitations of this study is lack of data on migrants in each tribal settlements and the unavailability of migrants for data collection. Being a unique district, the results obtained in Kanyakumari district holds less possibility to be obtained in other districts of Tamil Nadu but similar research studies can be undertaken to understand the inter-district variations in tribal migration.

In the Tamil Nadu Human Development Report (TNHDR) of 2017, Kanyakumari district ranks first among all the districts with the Human Development Index (HDI) of 0.944. The present study undertaken in this district among the most disadvantaged sections of the society clearly outlines the rampant crisis faced by them. Hence, the researcher, being very much familiar with the local conditions of the district observes that there is immense regional disparities within the district. There is an urgent need to balance this intra-district disparity on the part of the government. Also, guidelines of tribal development programmes can be amended by the concern departments, so that all the tribes can be equally benefitted; irrespective of their population.

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#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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