HIGHER WAGES, COST OF SEPARATION AND SEASONAL MIGRATION IN INDIA

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Abstract

In this paper, an attempt is made to study the phenomenon of seasonal migration in India and its determinants by using the recent (2007-08) National Sample Survey (NSS) data. The theoretical model used to study the determinants of seasonal migration is based on the utility maximisation principle developed by Stark and Fan (2007). It was found that presently there is a shift in the migration pattern from permanent migration to temporary and short duration migration, which is guided by employment related factors. The empirical result supports the theoretical argument that higher wages and the cost of separation shape seasonal migration to a significant degree in India. In light of these findings, it is suggested that seasonal migration be controlled for those who are physically, socially and economically vulnerable. With this objective in mind, the government should ascertain the reasons for the failure of MGNREGS in controlling distress migration in India and ensure its successful implementation.

Introduction

In recent years, seasonal migration has emerged as a major issue of investigation because of the large number of socio-economic implications. In fact, it is an important livelihood strategy for a large number of poor rural people in developing countries, including India. During lean periods people move from rural areas to nearby cities or towns for a short while in search of a livelihood to maintain their living standards. Lean periods can occur due to agriculture cycles or natural disasters, such as draught, flood, cyclone etc. In the case of seasonal downturns or shocks, a person may prefer a seasonal to a permanent move because such a decision offers an opportunity to combine the village based existence with the urban opportunities. Evidence of this phenomenon exists in many regions, particularly in the developing countries of Asia (Hugo, 1982; Stretton, 1983; Deshingkar, 2003; Rogali *et al*, 2002; and Rogali and Coppard, 2003), Africa (Eklan, 1959 and 1967) and South America (Barkley, 1990; and Deutsch, et al 2003). Within the Asian continent, seasonal migration has been a part of the livelihood strategy of poor people across the states in India (Rao, 1994; de Haan, 2002; and Srivastava and Ali, 1981). Currently, seasonal migration for employment is growing not only in terms of its absolute numbers but also in relation to the size of the working population as a whole (Breman, 1985; Breman, 1996; Rao, 1994; Rogaly et al, 2001). According to the National Commission on Rural Labour (NCRL), the majority of seasonal migrants employed in cultivation and plantations, brick-kilns, quarries, construction sites, fish processing etc. Further, large numbers of seasonal migrants work in urban informal manufacturing, construction, services and transport sectors or as casual labourers, head-

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loaders, rickshaw pullers and hawkers (Dev, 2002). This changing migration pattern is mainly guided by a set of distressed factors associated with the places of origin. The root cause of seasonal migration for employment is the lack of options in the agrarian sector and, hence, distress factors like unemployment, indebtedness, low wages and irregular income in the villages push the people and families out. The pull factors are two square meals a day, availability of work round the year and the hope of a better life (Srivastava and Ali, 1981; Rao, 1994; Rogali *et al*, 2002; Deshingkar and Start, 2003; Deshingkar and Grimm, 2005; and Deshingkar and Akter, 2009).

Therefore, in this paper an attempt is made to study the determinants of seasonal migration in India using the recent (2007-08) National Sample Survey (NSS) data. This paper is structured in the following fashion. Section II outlines a broad picture of seasonal migration in India. The theoretical model of seasonal migration (as developed by Stark and Fan, 2007) is presented in Section III. Section IV provides the empirical results, estimation of the determinants of seasonal migration and finally Section V concludes the paper.

Seasonal Migration in India

Table 1: Distribution of Seasonal Out-migrants by Sector and Gender in India

Categories	Sector		
	Rural	Urban	Total
Male	17303 (87.4)	3134 (86.8)	20437 (87.3)
Female	2505 (12.6)	475 (13.2)	2980 (12.7)
Total	19808 (100)	3609 (100)	23417 (100)

Note: Percentage figures in parentheses
Source: Author's Calculation from the NSSO 64th Round Unit Level data (2007-08)

The NSS defines migrants as those for whom the last usual place of residence (UPR) is different from the present place of enumeration. The UPR of a person is defined as a place (village/town) where the person stayed continuously for a period of six months or more. However, there are persons who do not change their UPR but undertake short-term movements. In NSS 64th round, information was collected regarding the short-term movements of the people who had stayed away from the village/town for 1 month or more but less than 6 months during the last 365 days for employment or in search of employment and are categorised as seasonal migrants in India. The sector-wise distribution of both male and female seasonal migrants is given in Table 1. It is seen from the table that out of total seasonal migrants in rural areas, 87.4 per cent were males and the rest 12.6 per cent females. In urban areas, the percentage of male and female migrants was 86.8 per cent and 13.2 per cent respectively. On an average about 13 per cent of the total migrants were female. It suggests the fact that females in India are not migrating because of marriage. Even though migration due to marriage is still dominant among females as a whole (as explained in the reasons for migration in previous section of this chapter) their share in seasonal migration cannot be ignored.

Table 2: Social Group Wise Distribution of Seasonal Out-migrants in India

Social Groups	Sector		
	Rural	Urban	Total
ST	3904(19.7)	525(14.5)	4429(18.9)
SC	4819(24.3)	655(18.1)	5474(23.4)
OBC	7582(38.3)	1338(37.1)	8920(38.1)
Others	3503(17.7)	1091(30.2)	4594(19.6)
Total	19808(100)	3609(100)	23417(100)

Note: Percentage figures in parentheses
Source: Author's Calculation from the NSSO 64th Round Unit Level data (2007-08)

Table 3: Distribution of Seasonal Out-migrants by Possession of Land in India

Land Groups	Sector		
	Rural	Urban	Total
Marginal Farmer	10170(51.8)	2911(81.3)	13081(56.3)
Small Farmer	2143(10.9)	129(3.6)	2272(9.8)
Semi-medium Farmer	752(3.8)	61(1.7)	813(3.5)
Medium Farmer	6504(33.1)	475(13.3)	6979(30.1)
Large Farmer	67(0.3)	3(0.1)	70(0.3)
Total	19636(100)	3579(100)	23215(100)

Note: Percentage figures in parentheses
Source: Author's Calculation from the NSSO 64th Round Unit Level data (2007-08)

Further, a social group-wise analysis (Table 2) reveals that in the rural areas the percentage of Other Backward Castes (OBC) is highest followed by the Scheduled Castes (SC), Scheduled Tribes (ST) and others. In the urban sector, the OBCs contribute the highest percentage of migrants followed by the other castes, SCs and STs. This finding suggests that there is hardly any inter-caste difference in seasonal out migration in India. However, the absolute volume of migration states that seasonal migrants are more (19,808) in rural areas when compared to the urban areas (3,609). It can be inferred that most of the seasonal movements of people are in the rural regions in India.

Table 4: Distribution of Seasonal Out-migrants by MPCE in India

MPCE Groups (in `)	Sector		
	Rural	Urban	Total
BPL (Less than 500)	23(0.1)	2(0.1)	25(0.1)
LIG (500-5000)	17216(86.9)	2221(61.5)	19437(83)
MIG (5000-10000)	2370(12)	1130(31.3)	3500(14.9)
HIG (10000 and above)	199(1.0)	256(7.1)	455(1.9)
Total	19808(100)	3609(100)	23417(100)

Note: Percentage figures in parentheses
Source: Author's Calculation from the NSSO 64th Round Unit Level data (2007-08)

The details of the agrarian distress factors, distribution of migrants by the size of their land holdings and different monthly per capita expenditure are presented in Tables 3 and 4. Marginal farmers are those who possess less than 1 hectare of land. Households owning 1 to 2 hectare of lands are small farmers, while those owning 2 to 4 hectares, 4 to 8 (4 to 10 hectares in the definition of the Ministry of Agriculture) hectares and more (10 hectares and above in the definition of Ministry of Agriculture) are classified as semi-medium, medium and large farmers respectively. This classification is based on the norms set by the Ministry of Agriculture, Government of India, except the last two categories due to the unavailability of land holding data above 8 hectares in the 64th round of NSSO. It is evident from Table 3 that of the total seasonal migrant belong to marginal farmer categories about 52 percent are from rural areas and about 81 per cent from urban areas (or having less than 1 hectare of land in urban areas). This is a clear indication of agrarian distress in India. Most of the urban migrants come from rural India in search of a temporary livelihood after harvesting the monsoon crop (kharif) in the rain-fed parts of the country, which gives rise to indebtedness and food insecurity (Mosse *et al*, 1997; Deshingkar *et al* 2008and Deshingkar and Akter, 2009). Since, this type migration occurs due to distress factors, it may be categorised as distress migration in India (Swain and Sadana, 2003; and Deshingkar and Akter, 2009). In Table 4, it can be observed that the households in the lower income group (LIG) have the highest percentage of seasonal migration (about 87 per cent in rural areas and 61.5 per cent in urban areas). However, in below poverty line (BPL) households migration is negligible (0.1 per cent) in both rural and urban areas. The second highest percentage of migrants is among the middle-income groups (MIG). It may be argued that the individuals belong to the households (who can afford the cost of migration) are shifting residence seasonally with to earn some extra income for the family.

Table 5: Distribution of Seasonal Out-migrants by Occupation in India

Occupations	Sector		
	Rural	Urban	Total
Self Employed	3383(17.1)	686(19)	4069(17.4)
Regular Salaried Employee	1254(6.3)	740(20.5)	1994(8.5)
Casual Labour	10548(53.3)	1095(30.3)	11643(49.7)
Household Unpaid Labour	2643(13.3)	334(9.3)	2977(12.7)
Unemployed	1460(7.4)	584(16.2)	2044(8.7)
Others	520(2.6)	170(4.7)	690(2.9)
Total	19808(100)	3609(100)	23417(100)

Note: Percentage figures in parentheses
Source: Author's Calculation from the NSSO 64th Round Unit Level data (2007-08)

Finally, the occupation-wise distribution of seasonal migrant workers (Table 7) implies that the percentage share of casual labour is the highest among all categories, followed by the self-employed workers in both rural and urban sectors. Most of the workers of these categories are informal sector workers (Deshingkar and Akter, 2009). Within the informal sector construction sector, textile and garment units provide direct employment to these migrant workers (Shah, 2006; and Unni and Bali, 2006).

The above discussions provide the patterns of seasonal migration in India. With this background, the next section attempts to study the factors responsible for seasonal migration in India. The theoretical model, developed by Stark and Fan (2007) for seasonal migration (from Poland to Germany) is used as a theoretical background for the empirical estimation of seasonal migration in India.

The Theoretical Model

The present analysis is based on the theoretical model developed by Stark and Fan (2007). The model considered a family with one breadwinner who is altruistic towards his family. It is assumed that the breadwinner is an agent who migrates on behalf of his family in order to maximise the family's wellbeing (as in Stark, 1993). It is also assumed that the cost of separation of the breadwinner increase (i.e., it becomes increasingly difficult for the breadwinner and his family to sustain the separation as its duration lengthens). The breadwinner's utility function is defined as

$$U = f(C,S) = C - S \text{.....(1)}$$

Where "C" denotes the consumption of the breadwinner's family, and "S" denotes the cost of the breadwinner's separation from his family upon his migration. The breadwinner's single-year time is assumed to be 1. There are two places, i.e., place of origin (O) and place of destination (D) where the migrant stays within the year. The wage rates in destination and in origin are W_D and W_O, respectively. Starting with the case where the breadwinner is working in destination leaving his family behind in origin. If the breadwinner spends t fraction of his unit endowment of time working in destination and 1- t working in origin, then his total earnings is equal to

$$W_D \cdot t + W_O \cdot (1-t) \text{.....(2)}$$

The consumption of the breadwinner's family is equal to the breadwinner's total earnings, namely to

$$C = W_D \cdot t + W_O \cdot (1-t) \text{.....(3)}$$

Again setting the separation function as

$$S = q \cdot t^2 \text{.....(4)}$$

Since the cost of separation may differ across breadwinners, it is further assumed that ? is a random variable with a probability distribution in the domain (0, 8). Furthermore, it is not only assumed that the cost of separation rises in the duration of the separation but also becomes increasingly difficult for the breadwinner and his family to sustain the separation as the duration lengthens (Stark and Fan, 2007).

Now inserting equation (3) and (4) into equation (1) we have

$$U = W_D \cdot t + W_O \cdot (1-t) - q \cdot t^2 \text{.....(5)}$$

The first-order condition for the interior optimal solution to equation (5) is

$$\frac{\partial U}{\partial t} = 0 \Rightarrow \frac{\partial}{\partial t}(W_D \cdot t + W_O \cdot (1-t) - q \cdot t^2) = 0$$

$$\Rightarrow W_D - W_O = 2q \cdot t \Rightarrow t^* = \frac{W_D - W_O}{2q}$$

and the second-order condition for maximum holds, i.e., $\frac{\partial^2 U}{\partial t^2} = -2q < 0$

Here t* is the optimal choice of t, since wage in destination places is higher than that of place of origin (W_D- W_O)>0, we always have that t*>0

Hence, seasonal migration occurs if and only if t takes an interior solution, i.e., if and only if

$$t^* = \frac{W_D - W_O}{2q} < 1 \text{.....(6)}$$

or if and only if

$$q > \frac{W_D - W_O}{2q} \equiv q^* \text{.....(7)}$$

That is, seasonal migration occurs if and only if $q > q^*$. Now inserting equation (6) into (5) and rearranging, we get the breadwinner's utility as

$$U_S^* = \frac{(W_D - W_O)^2}{4q} + W_O \text{.....(8)}$$

If, however, $q \leq q^*$, then the breadwinner chooses permanent residence in destination (with complete separation from his family) rather than seasonal migration. In this case, upon inserting t=1 into equation (5), we get that the breadwinner's utility as

$$U_P^* = W_D - q \text{.....(9)}$$

This is the theoretical model developed by Stark and Fan (2007), in which the seasonal migration function of absolute wage difference between place of destination and place of origin, duration of staying at home and the temporary separation from the family members, is given in equation 10.

$$M = f(W, q, X) \text{.....(10)}$$

Where M is the migration decision of the household members, W is the raw wage differential between place of origin and place of destination, θ is the duration of staying out of home (the cost of separation) during a year and X is the vector of other household and individual characteristics. This equation 10 is empirically estimated for India in the next section, using the recent (2007-08) NSSO data.

Empirical Estimation

A probit model is used to estimate the determinants of seasonal migration in India. The theoretical background for the probit model is as follows:

Given $y_i = x_i b + e_i$

where Y is the dependent variable, X is the data matrix formed out of the explanatory variables, ß is the vector of parameters and e is the stochastic disturbance term. Y is binary variable assumes value zero for non migrants and one for seasonally migrants.

$$y_i = \begin{cases} 1; y_i^* > 0 \\ 0; y_i^* \le 0 \end{cases}$$

and

$$P(y_i = 1 | x) = P(y_i^* > 0 | x)$$
$$= P(x_i' b + e_i > 0 | x)$$
$$= P(e_i > -x_i' b | x)$$

Here, e is commonly assumed to be independent and normally distributed with zero mean and variance one. (Using Kernel density estimate it is also found that e is normally distributed) This leads to the binary probit model with probability density function as:

$$P(y_i = 1 | x) = \int_{-\infty}^{x_i b} \frac{1}{\sqrt{2p}} \exp(-\frac{t^2}{2}) dt$$

and the cumulative distribution function as:

$$P(y_i = 1 | x) = F(x_i' b)$$

The probit equation to be estimated here is given below

$$M = a + b_j (X_i) + gq + sq^2 + e$$

Where M is binary variable assumes value zero for non migrants and one for seasonally migrants. X_i is a vector of socio-economic variables including predicted wage in the destination places,

monthly per capita consumption expenditure, age, sex, caste education etc., and e is stochastic error term.

Table 6: Determinants of Seasonal Migration Decision in India

Variables	Probit Results			
	Coefficient	Z-Value	Marginal Effects (dy/dx)	Z-Value
Intercept	-0.8349679	(-8.22)***	---	---
Age	0.047932	(8.43)***	0.0115859	(8.37) ***
Age squared	-.0004096	(-5.55)***	-0.000099	(-5.53) ***
Monthly Wage (predicted)	0.0000077	(1.63)*	0.00000188	(1.63) *
Separation	-.130648	(-50.14)***	-0.0315796	(-50.24) ***
Separation Squared	0.0020423	(29.38)***	0.0004936	(29.14) ***
MPCE	-0.0000048	(2.14) **	-0.00000117	(-2.14) **
Married	-.3412554	(-5.34)***	-.00902108	(-14.13) ***
ST	0.1040946	(3.56)***	0.02616	(3.44) ***
SC	-.2098432	(-7.69)***	-0.0476977	(-8.21) ***
OBC	-.1283685	(-5.93)***	-0.0304114	(-6.04) ***
Male	0.6076615	(28.73)***	0.1425643	(29.59) ***
Illiterate	0.3788387	(2.54)***	0.0860214	(13.38) ***
Edu_BP	0.1998074	(5.30)***	0.044204	(5.81) ***
Edu_P	0.2514918	(7.55)***	0.0548286	(8.44) ***
Edu_M	0.1931849	(6.30)	0.0433572	(6.82) ***
Edu_S	0.1891363	(5.80)***	0.0422419	(6.31)***
Edu_HS)	0.0498333	(1.33)	0.0117816	(1.36)
No. of observations (N)	32962			
Wald $?^2$	7219.91			
Pseudo R^2	0.2612			
Maximum Log Likelihood	-13225.319			

Note: Absolute value of Z-statistics are given in parentheses and ***, ** and * implies the level of significant at 1%, 5% and 10% respectively.

Source: Authors' Estimation

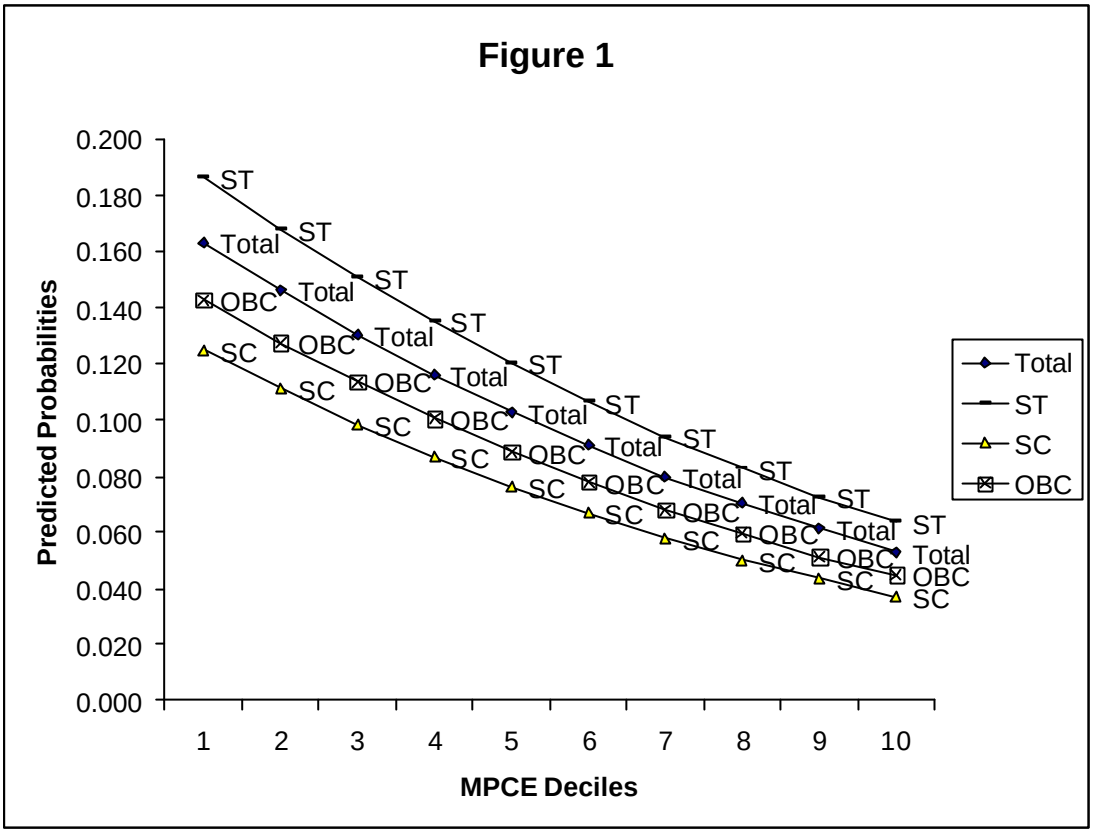
The empirical result from the probit estimation is given in Table 6. The coefficients (robust) and the z-statistics are given in columns 2 and 3 whereas the marginal effects and z-statistics are given in columns 4 and 5 respectively. Before moving to a discussion of individual parameter estimates, several general observations are worth noting. The wald chi-squared statistic, testing the null hypothesis that all regressors are jointly zero, is strongly rejected. The discussion begins with the effect of the migrants' age and its square on the migration decision. Age provides a rough proxy for work experience. As such, it gives some indication of the earning potential of the individual. As there are typically diminishing returns to experience, a quadratic formulation is appropriate. Age and age squared also incorporate several demographic features. A younger man may wish to use his home as a base while searching for work. As parents become older, they may want their sons to live nearby. Sons who migrated in the past may now wish to live in the sub-location or migrate seasonally. All these

considerations suggest a quadratic formulation for the age variable that is strongly borne out in the results of the model. Age is positive and highly significant and the quadratic term is negative and also highly significant, a result consistent with the scenario outlined above. The coefficient of predicted wage (wage is a function of personal characteristics like age, sex, caste, education etc.) is positive and statistically significant suggesting that the probability of migration increases with increase in wage. This is consistent with the theoretical model presented in the previous section. Here seasonal migration is positively related to the prevailing wage at the place of destination. Wage rate is one of the most important determinants of seasonal migration in India because the poor migrants move out and work in places where they get more wages. The period since leaving the last usual place of residence is used as the cost of separation in the present context. It is found that the coefficient of cost of seasonal separation is negative and statistically highly significant, supporting the theoretical argument of Stark and Fan (2007). Again, we have included monthly per capita consumption expenditure (MPCE) as an explanatory variable in the model to study the seasonal migration behaviour of the different economic classes. It is found that individuals from lower economic classes are more likely to migrate. This is consistent with the earlier studies that seasonal migration is mainly driven by poverty and distress factors (Srivastava and Ali, 1981; Rao, 1994; Rogali *et al*, 2002; Rogali and Coppard, 2003; Haan, 2002; Deshingkar, 2003; and Deshingkar, 2006). The coefficient of marriage is negative and significant, suggesting the fact that those who have currently married in NSS return are less likely to migrate seasonally compared to others. It is also seen that SCs and OBCs are less likely to migrate compared to the general castes. The justification for the above finding (Bhatia and Drèze, 2006) is due to NREGA, which provides manual work to a huge segment of the rural people, who generally belong to the socially deprived groups. However, STs are more likely to migrate compared to the general caste categories. Therefore, it suggested that the government needs to indentify the factors responsible for the same and increase the NREGA coverage to include all other social groups particularly STs. Regarding the role of education, it is observed that those who have poor education are more likely to migrate seasonally. The higher secondary level of education is insignificant suggesting that education has a very limited role to play in the seasonal migration process in India. This is because of the fact that individuals migrate seasonally for manual work that requires less human capital endowment. In addition to the predicted probabilities from the probit estimation would be useful to policy makers in India. The predicted probabilities from probit estimation are provided in Table 7.

Table 7: Predicted Probability of Being a Seasonal Migrant

Age Categories	Predicted Probability from Probit Results		
	ST	SC	OBC
20 years	0.0277	0.0143	0.019
30 years	0.0901	0.0535	0.0671
40 years	0.2225	0.1502	0.1783
50 years	0.4256	0.3229	0.3648
60 years	0.6512	0.5464	0.5911

Source: Authors' Estimation



The predicted probabilities computed form the above probit regression is presented in Figure 1 and Table 7. It is very clear from Figure 1 that the probability of being a seasonal migrant is more for the people with a lower monthly per capita expenditure (MPCE) across the social groups. With the increase in MPCE the probability of migration declines. However, within the social groups STs have the highest predicted probability (values) of being seasonal migrants in India. In Table 7, the predicted probabilities of individuals who belong to different social groups are presented here for selected age levels. It is observed that with a given age category, the probability of being a migrant is higher for STs. At the same time there is an increase in probability of seasonal migration with increase in age from 20 years to 60 years. It could be inferred from this finding that younger people prefer permanent to seasonal migration. Therefore, the policy makers should be take into account these aspects and within the NREGA the preference should be given to those who are physically, socially and economically more vulnerable than others.

Conclusion

It can be concluded that recently the pattern of migration in India is changing from permanent to temporary or seasonal migration, which is mainly driven by employment related reasons. Besides marriage migration a large proportion female migrants migrate seasonally for employment purposes. The percentage of female seasonal migration is not significantly different than that of males across the social groups in both the rural and urban areas. The prevailing higher wages in the destination places

and the cost of seasonal separation are important determinants of seasonal migration in India. Education has a very limited role in the process of seasonal migration. It is concluded that seasonal migration in India is mainly driven by poverty, employment and higher wages. But while taking the policy decisions to check seasonal migration in India, the policy makers should take into account the predicted probabilities computed for the migration equation, which suggested that seasonal migration should be controlled for those who are physically, socially and economically vulnerable. One way of doing that could be through effective implementation and execution of the existing NREGA programme in rural areas.

Reference

Barkley, Andrew P (1990). The Determinants of the Migration of Labor out of Agriculture in the United States, 1940-85. *American Journal of Agricultural Economics*, 72 (3): 567-73.

Bhatia, B and Jean Drèze (2006). Employment Guarantee in Jharkhand: Ground Realities. *Economic and Political Weekly,* 41 (29): 3198-202.

Breman, J (1985). *Of Peasants, Migrants, and Paupers*. New Delhi: Oxford University Press.

———— (1996). *Footloose Labour: Working in the Indian Informal Economy*. New York: Cambridge University Press.

de Haan, A (2002). Migration and Livelihoods in Historical Perspective: A Case Study of Bihar, India. *Journal of Development Studies,* 38 (5): 115-42.

Deshingkar, P and D Start (2003). Seasonal Migration for Livelihoods in India: Coping, Accumulation and Exclusion. *ODI working paper,* No. 220. London: Overseas Development Institute.

Deshingkar, P and S Grimm (2005). Internal Migration and Development: A Global Perspective. *International Organization for Migration (IOM) Research Series, No. 19*. Geneva: IOM.

Deshingkar, P and S Akter (2009). Migration and Human Development in India. *Human Development Research Paper, No. 2009/13*. available at http://hdr.undp.

Deshingkar, P, P Sharma, S Kumar, S Akter and J Farrington (2008). Circular Migration in Madhya Pradesh: Changing Patterns and Social Protection Needs. *The European Journal of Development Research,* 20 (4): 612-28.

Deutsch, C J, *et al* (2003). Seasonal Movements, Migratory Behavior, and Site Fidelity of West Indian Manatees along the Atlantic Coast of the United States. *Wildlife Monographs No.151*. Allen Press.

Dev, S M (2002). Pro-poor Growth in India: What do we know about the Employment Effects of Growth 1980–2000?. *Working Paper 161*. London: Overseas Development Institute.

Elkan, W (1959). Migrant Labor in Africa: An Economist's Approach. *The American Economic Review,* 49 (2): 188-97.

———— (1967). Circular migration and the growth of towns in East Africa. *International Labour Review,* 96 (6): 581-89.

Hugo, G J (1982). Circular Migration in Indonesia. *Population and Development Review,* 8 (1): 59-83.

Mosse, D, S Gupta and V Shahet (2005). On the Margins in the City Adivasi Seasonal Labour Migration in Western India. *Economic and Political Weekly*, 40 (28): 3025-38.

Perloff, J M *et al* (1998). Migration of Seasonal Agricultural Workers. *American Journal of Agricultural Economics*, 80 (1): 154-64.

Rao, U (1994) *Palamoor Labour: A Study of Migrant Labour in Mahabubnagar District*. Hyderabad: C.D. Deshmukh Impact Centre, Council for Social Development.

Rogaly, B and D Coppard (2003). They Used to Go to Eat, Now They Go to Earn: The Changing Meanings of Seasonal Migration from Puruliya District in West Bengal, India. *Journal of Agrarian Change*, 3 (3): 395-433.

Rogaly, B, J Biswas, D Coppard, A Rafique, K Rana and A Sengupta (2001). Seasonal Migration, Social Change and Migrants' Rights: Lessons from West Bengal. *Economic and Political Weekly*, 36 (49): 4547-59.

Rogaly, B, D Coppard, A Rafique, K Rana, A Sengupta and J Biswas (2002). Seasonal Migration and Welfare/illfare in Eastern India: A Social Analysis. *Journal of Development Studies,* 38 (5): 89-114.

Shah, A (2006). The Labour of Love: Seasonal Migration from Jharkhand to the Brick Kilns of other States in India. *Contributions to Indian Sociology*, 40 (1): 91-118.

Srivastava, R C and J Ali (1981). Unskilled Migrants, their Socioeconomic Life and Patterns of Migration. In R B Mandal (ed), *Frontiers of Migration Analysis*. New Delhi: Concept Publishing House.

Stark, O and C S Fan (2007). The Analytics of Seasonal Migration. *Economics Letters*, 94: 304-12. Available at: http://www.ln.edu.hk/econ/staff/fansimon/stark-letters.pdf.

Stretton, A (1983). Circular Migration, Segmented Labour Markets and Efficiency: The Building Industry in Manila and Port Moresby. *International Labour Review,* 122 (5): 623.

Swain, S and R Sadana (2003). Integrating Health Interventions in Western Orissa Rural Livelihoods Project. *DFID Working Paper No. 14*. Orissa: Department for International Development, Government of Orissa.

Unni, J and N Bali (2001). Subcontracted Women Workers in the Garment Industry in India. In Rahdikabalkrishnan's (ed), *The Hidden Assembly Line: Gender Dynamics of Subcontracted Work in Global Economy*. Kumarian, Connecticut.