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The Impact of Internal Migration on Food Consumption Pattern:

An Indian case

Introduction:

Since the economic reforms in India in early 1990s, food consumption pattern has changed much showing decline in average cereal intake and a slight increase in consumption of other food items. There has been a debate on this change as average calorie intake is also declining among lower caste, less educated and poor people (Deaton & Dreze, 2009; Ray, 2005; Patnaik, 2007 & 2004; Radhakrishna and Reddy, n. d.). India is a home of undernourished population where hidden hunger (micronutrient deficiency) is widespread especially among children. Few years are left to achieve an objective, set by MDGs, of reducing child under-nutrition but still a very high percentage of children suffer from under-nutrition (NFHS III, 2005-06, Fact Sheets).

Besides, recent phenomena of globalisation and urbanisation have changed the scenario of economic growth and socio-economic development making few pockets of the country highly developed leaving behind others. In Indian case, rural-urban disparity is widely known phenomena which has resulted high migration rate from less developed areas in search of better employment and livelihood. A recent paper on internal migration in India has shown that migrants come from lower socio-economic strata and forms a major portion of poor section of India (Mahapatro, 2012). The latest NSS (National Sample Survey) round data shows internal migration in India has increased from 25 percent in 1993 to 29 percent in 2007-08.

Thus, India becomes an interesting case for this study as internal migration rate is on rise and at the same time India has experienced drastic change in food consumption pattern posing a possibility of changing nutrition level. This situation creates a good opportunity to compare it between migrant sending & not sending households and also within migrant households (households receiving remittances and not receiving remittances).

Basic Objective:

To explore level of food security comparing (a): migrant sending households with migrant not sending households, (b): households receiving remittances with non-receiving remittance households and to also answer determinants of food security considering regional, social and economic factors in both types of households.

Methods:

Data Extraction

This study is based on secondary data, mainly from National Sample Survey (NSS) 64th, Migration, unit level data (2007-08). NSS is a large scale sample survey conducted under National Sample Survey Organisation (NSSO). Total 125578 households (53961 migrant sending and 71617 not migrant sending) have been surveyed for the data in this round.

Statistical Analysis

Migrant sending households are those from where any former member of the household had migrated out of the household any time in the past. It is important to note that only those persons who were members of the household at the time of their departure and are presently alive are to be considered. Any member who had migrated out any time in the past but returned to the household and are presently members of the household will not be considered as out-migrants. As far as methodological part is concerned, in order to show determinants of food expenditure, multiple linear regression model has been employed wherein all the regressors are made dummy.

The basic formula for multiple regression is:

$$Y_i = \beta_1 + \beta_2 D_{2i} + \beta_3 D_{3i} \ldots\ldots\ldots \beta_K D_{Ki} + u_i$$

Where, Y is the dependent variable, D_2, $D_3 \ldots D_K$ explanatory variables (or regressors), u the stochastic disturbance term and i the i_{th} observation. β_1 is the intercept term and it gives mean or average effect on Y of all the variables excluded from the model. The coefficients β_2 and β_3 are partial regression coefficient. In multiple regression when categories are m, then dummy variables are made by m-1 formula i.e. for each independent variable (regressor) the number of dummy variables introduced must be one less than the categories of that variable. The category for which no dummy variable is assigned is known as reference or omitted category.

In order to show affect of socio-economic and regional variables on consumption of different food items, following variables have been selected:

(1). Household Size has been grouped into four categories: 1-3 members (small households), 4-6 members (middle size households) and 7 and above members (big households). (2). Religious Groups

have been categorized into four: Hindus, Muslims, Christian and other religious groups which include Sikhism, Jainism, Buddhism, Zoroastrianism and others. In multiple regression, all categories have been made dummy variables and Hindu category is the reference. (3). Social Group (Caste) includes Scheduled Tribe, Scheduled Caste, Other Backward class and others. In multiple regression, all groups have been made dummy variables and ST is the reference category. (4). Monthly per capita expenditure classes (MPCE, a proxy variable for income classes): 5 broad classes have been made based on the NSS report for the concerned year (NSS Report No. 533 (64/10.2/2). (5). All major Indian states have been grouped into 6 major categories based on their geographical location. (a). Northern (b). Central (c). Eastern (d). North Eastern (e). Western (f). Southern. In multiple regression analysis, central region is the reference category. (6). Place of residence and period since leaving the household are another important independent variables considered under this study.

Herfindahl Index has been used for showing dietary diversity (concentration of food expenditure in total food intake). For this, following formula is used:

$$H = \sum_{i=1}^{N} s_i^2$$

Where, S_i is the share of food groups to total diet and N is the number of food groups.

Dietary diversity: Comparison between migrant sending (M) and non-migrant sending (NM) households

Diet diversity between migrant sending and not sending families indicate that all socio-economic and regional groups demonstrate moderate diet diversity. However, non migrant sending families present relatively higher concentration of some food in their diet than the migrant sending families. Dietary diversity level across different socio-economic groups show (Table 1) that it is the bigger households, bottom MPCE class, ST, SC, Eastern and North Eastern families which exhibit higher concentration of particular food category into their diet in both type of households.

Table: 1 Level of Diet Diversity between migrant sending (M) and non-sending migrant (NM) households in India: At disaggregated level, 2007-08

Categories	M	NM
Region		
North	0.194	0.171
Central	0.184	0.175
East	0.193	0.194
North East	0.193	0.202
West	0.153	0.153
South	0.157	0.170
Household Size		
1-3	0.156	0.169
4-6	0.173	0.171

7 and above	0.188	0.193
Religion		
Hinduism	0.166	0.164
Islam	0.178	0.172
Christian	0.162	0.176
Others	0.177	0.167
Social Group		
ST	0.181	0.180
SC	0.176	0.170
OBC	0.167	0.164
Others	0.161	0.160
Place of Residence		
Rural	0.172	0.173
Urban	0.157	0.161
MPCE Urban (%)		
Below 20	0.182	0.176
20-40	0.164	0.161
40-60	0.160	0.156
60-80	0.158	0.157
80-100	0.163	0.185
MPCE Rural (%)		
Below 20	0.219	0.215
20-40	0.200	0.194
40-60	0.182	0.180
60-80	0.170	0.167
80-100	0.159	0.160
Total	0.166	0.164

Source: Authors calculation from NSS, 2007-08, Migration round

Conclusion

The pace of internal migration in India has been increasing in search of employment, income and better livelihood. However, it is quite difficult to quantify the benefits and drawbacks of internal migration. Several global studies view migration from positive point of view improving food intake, nutrition and reducing multidimensional poverty. In India, not a single study tries to link internal migration with food consumption. This study tries to fill this gap. The results of the study clearly mention that migrant sending households spend comparatively much part of their income on healthy and diverse food items showing higher probability of being nutritionally secure. Non migrant sending families show higher concentration of particular food in their diet. Besides, remittance receiving households depend on cereal food consumption showing less diverse diet. This may be due to the fact that present study focuses only on internal migration in which channel of sending remittance is not easily captured in the data as in case of international migration. The results of this section need to be compared with other similar studies which are based on internal migration.

This study also exhibits poor level of food consumption and dietary diversity among households comprising lower MPCE, rural, bigger families, ST, SC, Muslims, Eastern and North-Eastern regions. The probability of consuming diverse diet in these groups is much low compared with other categories. These households whether migrant sending or not remain at the bottom of the level of food security. Besides, results of the study shows that MPCE and to some extent regional factors are the important variables determining consumption of all food items. Thus, this study concludes recommending the need to mainly emphasis on bottom socio-economic classes, promoting migration and its link with food and nutrition security.