

Out-migration and Poverty Reduction –Evidence from Northern Ghana

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Abstract- Internal migration has been recognized to play crucial role in overall welfare, particularly poverty reduction. Among other things, the purpose of this paper is to find out which variables accounts for poverty reduction efforts in Ghana especially those that have implications for rural livelihood diversification. The study used data obtained from primary source in five key settlements of administrative and commercial importance in Ghana and household members of out-migrants from the Upper East Region. A structured questionnaire covering pertinent issues related to migration and household poverty was administered to them through interview. The sample size was 345 and snowball approach was adopted to reach the target group in the selected metropolises. The study also employed factor analysis to determine poverty reduction variables relating to internal migration and its implications for socio-economic development. It emerged that institutional, economic and socio-cultural factors are key in determining the ability of migration to contribute towards poverty reduction. It is concluded that internal migration for livelihood purposes is important as it enables households to improve their living conditions in a sustained manner.

Index Terms- internal migration, poverty reduction, development, factor analysis, household.

I. INTRODUCTION

In contemporary times, there has been a shift in the debate on the perceived relationship between migration and development (migration-development nexus) from the perception that migration is generally considered as reflecting failure of development or worse as contributing to a vicious circle in which poverty at the place of origin is reinforced (Kees van der Geest, 2011). Instead of a vicious circle, migration is increasingly observed as part of a virtuous interaction in which development is enhanced, not only in the destination community, but also in the place of origin (Weinstein, 2001 cited in Kees van der Geest, 2011).

It has been observed that migration brings rapid changes to social, economic, political and other systems at both the origin and the destinations of migrants (Mabogunje, 1970). According to Addo (undated), migrants influence the pace of socio-economic change notably by making their skills available at where they are most needed and obtain higher yield. They are able to bring new sense of values and modes of economic behavior into established

enterprises. For instance, migrants bring along new skills into the receiving areas.

In terms of motives, economic migrants move to seek better economic opportunities than what exist in their places of origin. For the majority of migrants all over the world, improving their standards of living constitutes the key driver (UNFPA, 2007). It has been asserted that migration is employed as both livelihood and income diversification strategy (Awumbila and Ardayfio-Schandorf, 2008; Anarfi and Kwankye, 2005).

The findings of earlier researches have shown that there is a strong correlation between internal migration and poverty reduction. According to Hainmueller and Hiscox (2007), vulnerability that a household is confronted with could motivate people to undertake migration as livelihood diversification. It is also possible for such deprivations to minimize ability to embark on migration since migration requires mobilisation of resources in order to meet the huge expenses involved (Castaldo, *et al.*, 2012).

The ability of internal migration to bring economic benefits and reduce poverty depends on the nature of the migration undertaken, and the relationship between migrants and their relatives left behind (Adams and Page, 2003; Litchfield and Waddington, 2003). It is evident that the poor are often forced to migrate out of desperation rather than migration of choice and this situation has tendency to impoverish their households (Rogaly, 2003). Thus, internal migration is not panacea; and could push both out-migrants and their households left behind into poverty and deprivations. Therefore, the relationship between poverty and migration is unlikely to be unidirectional.

In view of the high incidence of poverty in northern Ghana; north –south development disparities; and low agricultural productivity, some households consider internal migration as a mechanism for obtaining income through remittances (Van der Geest, 2011; Kwankye, 2012; Adaawen and Owusu, 2013). In recent times, internal migration and remittances have received some attention owing to their implications for the wellbeing of out-migrants, their households, communities and the country as a whole (Adaawen and Owusu, 2013). It is also noted that in northern Ghana, these remittances constitute a significant component and source of reliable income for many households left behind, especially, during periods of economic shocks (Adaawen and Owusu, 2013; Agyei, 2012; Kwankye, 2012, Castaldo, *et al.*, 2012; Abdul-Korah, 2011; Van der Geest, 2011; Pickbourn, 2011; Mazzucato *et al.*, 2008). In Ghana, the overall poverty level has declined but, there exists a wide income disparity between the poor and the wealthy; and between rural and urban residents. In terms of geo-political disaggregation, the

northern regions have consistently recorded relatively high incidence of poverty (NDPC, 2008; GSS, 2014; Obeng-Odoom, 2012).

The relationship between internal migration and poverty reduction lies in ability of a migrant to earn relatively higher income and send remittances. These remittances can be used to educate children, pay health care bills, buy farm inputs to expand scale of operations, provide start-up capital for off-farm business, construct or maintain houses, acquire livestock, etc. All these can help change the situation of the households by empowering them economically; and this eventually leads to growth and development in their communities. Thus, this enables people to take advantage of livelihood opportunities in order to improve upon their lives (Moser, 2008). If even remittances are used for consumption rather than investment as is often the case in poor households, it ensures food security which could enhance their productive capacity.

The significance of internal migration in poverty reduction is based on the fact that large numbers of people are involved. This also implies that the quantum of remittances that out-migrants send home and the potential that it offers for poverty reduction cannot be overlooked, despite the relatively low attention from policy-makers and governments.

While some studies have stressed on the significance of out-migration and the resultant remittances to households and communities in northern Ghana, research related to the potential of out-migration to reduce poverty remains patchy. This is sometimes ascribed to the scanty or unavailable official data for estimating remittances from internal migrants. In view of this, this paper seeks to ascertain the potential benefits of internal migration to reduce poverty and uplift the well-being of the populace employing factor analysis.

Following the background, problem statement and literature review, the rest of the paper is divided broadly into three sections. The first section deals with the research methods employed. The second section presents the bio-social characteristics of the respondents (migrants) and findings from the study. Finally, the conclusions and policy recommendations are provided.

The key question that emanates from the above scenario is whether internal migration could contribute to reduce poverty. The specific research questions were:

1. To what extent does internal migration contribute to addressing development challenges in Ghana in terms of poverty reduction?
2. What are the implications for socio-economic development?

II. RESEARCH METHODS

This study employed primary data collected in regional capitals namely, Accra, Cape Coast, Kumasi, Sekondi-Takoradi, Tamale and Sunyani. The selection of these urban communities was because they are key recipients of out-migrants from UER, UWR and Northern Region. A structured questionnaire based on issues related to migration and poverty was administered through interview. The study employed purposive sampling technique due to inability to obtain sampling frame for internal migrants. In view of this, migrants who were available and willing to

participate in the study were interviewed. The respondents were defined as persons born in the three regions and aged at least 18 years and had stayed in the selected communities for at least two years (outside place of origin) and the sample size was 345.

Stata and KAISER-MEYER-OLKIN(KMO) were employed to carry out data processing and analysis. It was employed to assess the sampling adequacy to compare magnitudes of observed and partial correlation coefficients. Large KMO values are indicative that correlations observed between pairs of variable can be explained by the other variables. However, lower KMO value (<0.5) implies that the result cannot be explained by other factors in the model.

Factor analysis deals with communality and specific variances. The communality of a variable is the aspect of its variance that could be explained by the common factors identified. On the other hand, the specific variance refers to part of the variance of a variable that is not accounted for by the common factors (Browne, 2001). Factor analysis usually proceeds in two stages; and in the first stage, one set of loadings is calculated which yields theoretical variances and covariance that fit the observed ones as closely as possible according to a certain criterion.

These loadings, however, may not agree with the prior expectations, or may not lend themselves to a reasonable interpretation. Thus, in the second stage, the first loadings are rotated" in an effort to arrive at another set of loadings that fit equally well the observed variances and co-variances, but are more consistent with prior expectations or more easily interpreted. In factor analysis, the parameters of these linear functions are referred to as loadings.

Factor analysis is based on the premise that the data are measurable and observable variables can be reduced to fewer latent variables which share a common variance (Bartholomew, Knott, and Moustaki, 2011). Whereas unobservable factors are not directly measured they are essentially hypothetical constructs that are used to represent the variables (Cattell, 1973). The variables are functions of two fundamental factors, F1 and F2, uncertainly described as poverty reduction and internal migration, respectively. It is assumed that each Z variable is linearly related to the two factors, and it is written as follows: $Z_1 = \beta_{10} + \beta_{11}F_1 + \beta_{12}F_2 + \mu_1$.

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$$Z_2 = \beta_{20} + \beta_{21}F_1 + \beta_{22}F_2 + \mu_2$$

$$Z_3 = \beta_{30} + \beta_{31}F_1 + \beta_{32}F_2 + \mu_3$$

$$Z_4 = \beta_{40} + \beta_{41}F_1 + \beta_{42}F_2 + \mu_4$$

$$Z_5 = \beta_{50} + \beta_{51}F_1 + \beta_{52}F_2 + \mu_5$$

$$Z_6 = \beta_{60} + \beta_{61}F_1 + \beta_{62}F_2 + \mu_6$$

According to Thompson (2004), each observed response is influenced partially by underlying common factors (factor 1 and factor 2). The strength of the link between these factors varies, such that a given factor influences some measures more than others. This facilitate sex amination of the pattern of correlations (covariance's) between the observed measures (Kim and Mueller,1978). It should be stated that variables in the model that are highly correlated (either positively or negatively) are indication of likelihood to influence the same factors.

On the other hand, those variables which are relatively uncorrelated suggest that they are likely to be influenced by different factors. If one intends to conduct an additional analysis, factor scores will have to be constructed using the factors as variables. The score for a given factor is a linear combination of all of the measures, weighted by the corresponding factor loading. Sometimes factor scores are idealized; assigning a value of 1.0 to strongly positive loadings, a value of -1.0 denotes a strongly negative loading. However, zero (0) to intermediate loadings. These factor scores can then be used to conduct analysis just like any other variable, although it should be noted that they could be strongly collinear with the measures employed to generate them.

Applications of Factor Analysis in the internal migration-poverty reduction model

Identification of underlying factors involved putting clusters of variables into homogeneous sets; creating new variables (factors) and these facilitated gaining of insight into the categories obtained. The second step was screening of variables in order to identify the groupings for the purpose of selecting a variable to represent the groups. This is useful in regression (recall collinearity) and helped to describe many variables using a few factors.

The next stage was sampling of variables which helped in the selection of a small group of variables as representative variables from larger set. After this, there was clustering of objects which means placing objects (variables) into categories depending on their factor score. At the final stage, the following activities were carried out: Computation of a correlation matrix for all variables; determination of the number of factors necessary to represent the data and the method of calculating them (factor extraction); transform the factors to make them easily interpretable (rotation); and computation of factor scores.

Conditions for the Application of Factor Analysis

One of the key requirements for conducting factor analysis is that the data should be univariate and multivariate normality (Child, 2006). In addition, the data must be devoid of univariate and multivariate outliers (Field, 2009). Another condition is that there should be a linear relationship between the factors and variables to facilitate computation of the correlations. For instance, data labeled as a factor should have a minimum of three variables. However, satisfaction of this requirement depends on the study design (Gorsuch, 1983, Tabachnick and Fidell, 2007).

As a general guide, rotated factors that have two or fewer variables should be interpreted with caution. A factor with two variables is only considered reliable when the variables are highly correlated with each another ($r > 0.70$). With regard to sample size, it requires a minimum of 300 observations and the variables should have not less than five observations (Lee, Pesaran and Smith, 1992). Thus, the recommended ratio of cases (respondents) to variables in the model should not be less than 10:1. In addition, the factors should be stable and have ability to cross-validate at a ratio of 30:1. Usually a relatively larger sample size helps to reduce errors contained in the data and in view of this; a larger sample size is preferred. The correlation r must be .30 or greater since anything lower would suggest a really weak relationship between the variables (Tabachnick &

Fidell, 2007). It is also recommended that a heterogeneous sample is used rather than a homogeneous sample as homogeneous samples lower the variance and factor loadings (Kline, 1994). Factor analysis is usually performed on ordinal or continuous variables, although it can also be performed on categorical and dichotomous variables.

Limitations

Among the limitations associated with this technique is that assigning names to the factors as the names assigned may not accurately reflect the variables within the factor. Another issue is that; some variables are difficult to interpret because they may load onto more than one factor resulting in split loadings. Such variables may correlate with each other and thereby constitute a factor in spite of the fact that it has little underlying meaning for the factor (Tabachnick and Fidell, 2007). Finally, results generated through factor analysis are hard to replicate because it requires a large sample obtained at a specified period in order to ensure reliability.

III. FINDINGS

Background Characteristics of Respondents

The respondents were 345 respondents and comprised males and females who formed 78 percent and 22 percent respectively. They were aged 18- 46 years and those who were below 30 years constituted 28 percent, while 16 percent and 36 percent were 31-45 years and over 45 years respectively. In terms of their marital status, it was found that majority of them were married (46%), 16 percent indicated that they were divorced compared to just 6.2 percent who were widowed. With respect to educational attainment, the analysis shows that 48 percent of them had basic education relative to 24 percent and 18 percent who had received secondary and tertiary education. About 10 percent of them indicated that they had no formal education. Cross-tabulation of educational attainment by gender revealed that there was no significant variation between males and females except that relatively higher proportion of males than their female counterparts had tertiary education, which is consistent with national trend (GSS, 2013).

It was revealed that 62 percent of respondents were not employed prior to their departure from their places of origin. However, it was revealed that all of them were engaged at the destination (see Table 1). The analysis also showed that a high percentage of the migrants were employed in trading or retail sector than agriculture-related activities. This could be explained by the fact the respondents were mainly urban and peri-urban residents. Other occupations included domestic work, security, cleaning, gardening, etc.

Table 1: Employment Sector of Respondents at the Destination

Sector	Frequency	Percent
Trading /retail	153	44.4
Service	68	19.7
Agriculture- related	55	15.9
Industry	36	10.4

Artisanship	25	7.3
Others	8	2.3
Total	345	100.0

It emerged from analysis of data that these migrants were able to send remittances which their households used for various purposes including education, health, support for livelihood activities such as agriculture and off-farm business, housing and many others.

Results of the Factor Analysis Model

The results indicate that Bartlett’s Test of Sphericity is significant ($p < .001$) and confirmed that the variables have patterned relationships. Finally, it shows that the data were suitable for principal component analysis (PCA) by looking at the Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy and the diagonal element of the Anti-Correlation matrix that has ‘a’ superscript (cut-off of above .50). The fact that the model has ability to meet this requirement implies that there are distinct and reliable factors.

Table 2: KMO and Bartlett's Test Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.511
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	109.962
	55
	.000

The results of the factor analysis model are presented in Table 2 and it shows the coefficients which estimate the parameters of the model. Other statistics such as the communalities and the total variance assess the significance of the estimates, including the relative contribution of the

independent variables to the explanation of migrants and non-migrants. “Communalities” it is found in initial column for each variable is 1.00 as unities were inserted in the diagonal of correlation matrix.

Table 3 : Presentation of Communalities

Key issues selected from the Questionnaire	Initial	Extraction
1. Believe that migration can reduce poverty	1.000	.554
2. People migrate from poor areas to places they can get something to do	1.000	.270
3. Apart from economic reason, there are other significant reasons for people to migrate	1.000	.376
4. People migrate mainly from rural areas to urban centres	1.000	.541
5. Internal migration helps individuals to acquire formal education for themselves, relatives or dependents.	1.000	.549
6. Remittances improve the livelihood of individuals and household members.	1.000	.391
7. We use the remittances mainly for consumption.	1.000	.408
8. Remittances are considered by the family as additional income	1.000	.501
9. What has internal migration enabled you and household to do. ¹	1.000	.565

Extraction Method: Principal Component Analysis.

¹Likert scale of 5.0 -1.0 with 5.0 being the highest and 1.0 the least

“Communality” is the proportion of variance accounted for by the common factors of a variable. Communalities range from zero to one; and zero means that the common factors do not explain any variance; 1.0 means that the common factors explain

all the variance. The results of the model show that most of the variables were higher than zero (four and three variables in Table 3 column labeled 2 and 3 respectively).

Table 4: Rotated Component Matrix

Component Matrix²	1	2	3
1. Believe that migration can reduce poverty significantly	0.392	0.352	0.525
2. People migrate from areas that have low economic potentials to places they can get something to do.	0.361	0.296	0.228
3. Apart from economic reasons, there are other significant reasons why people to migrate.	0.496	0.355	0.063
4. People migrate mainly from rural to urban areas.	0.356	0.621	0.168
5. Internal migrants support education, health, shelter, agriculture inputs and business of their dependents and other relatives.	0.432	0.176	-0.575
6. Remittances improve the livelihood of individuals and households left behind	0.560	-0.237	0.145
7. Remittances are mainly used for consumption but not only investment	0.620	-0.061	-0.141
8. Remittances are considered by the family as additional income.	0.605	-0.197	-0.310
9. Internal migration has enabled my household to improve quality of life.	0.134	-0.569	0.472

Source: Field Work, 2013

²²Likert scale of 5.0 -1.0 with 5.0 being the highest and 1.0 the least

A total of nine important variables were initially selected for processing and generating the most significant variables responsible for the poverty reduction; and the following emerged: economic, internal migration and remittances factors(referred to as retain factors).

Table5: Initial Eigen values and Extraction Sums of Squared Loadings

Key ³ Issue	Initial Eigen Values			Extraction Sums of Squared Loadings		
	Total Variance	% of Variance	Cumulative %	Total Variance	% of Variance	Cumulative %
1.	6.680	37.113	37.113	6.680	37.113	37.113
2.	2.017	11.208	48.321	2.017	11.208	48.321
3.	1.707	9.481	57.802	1.707	9.481	57.802
4.	.999	5.548	63.350			
5.	.801	4.453	67.803			
6.	.761	4.230	72.033			
7.	.657	3.647	75.680			
8.	.586	3.257	78.937			
9.	.563	3.129	82.066			

³ Key issues in the Component Matrix in Table 3.

From Table 5, it can be seen that only three factors have values greater one (Total variance). So these three out of nine variables were used for the analysis and together accounted for 57.8 percent of the total variance (see Table 5).

The Rotation Sum of Squared Loading (variance factors) gives the variances associated with the significant variables. These are not explained unless all the factors are retained. Thus, the results of the analysis indicate that three key factors which

are critical in propelling internal migration to contributing to success of poverty reduction. These are economic, poverty reduction and advantages associated with internal population movement (referred to as retain factors). Table 5 presents the categorized factors and variables which determine the success of internal migration bringing about poverty reduction.

Table 6: Categorization of Factors and Variables that affect Internal Migration and Poverty Reduction

Factor	Variables	Loadings	Surrogate Variables
Factor 1 (Remittances)	Variable 7 (Remittances enhanced consumption) Variable 8 (remittances as additional income) Variable 6 (remittances improve the livelihood of individuals)	0.620 0.605 0.560	Internal migration advantage
Factor 2 (Economic Reasons)	Variable 4 (people migrate from rural to urban areas) Variable 9 (internal migration has enabled my household to improve the quality of life)	0.621 0.569	Profitability
Factor 3 (Poverty Reduction)	Variable 5 (Internal migrants support education of their dependents and other relatives). Variable 1 (I believe that internal migration can reduce poverty)	0.575 0.525	Innovativeness

It emerged from the analysis that three factors are the key contributors to the success of classifying poverty reduction variables. These are economic, internal migration issues and remittances from the migrants. The analysis shows that remittances (factor one) is the most significant; followed by economic reasons for migration (factor 2) and poverty reduction (factor 3) - see Table 6.

IV. DISCUSSION

The main objective of the study was to determine the extent to which internal migration contribute to poverty reduction and its implications for development in Ghana? The findings show that internal migration in Ghana contributes significantly to improving livelihood (i.e. off-farm business operation, expansion of agriculture activities, etc). For instance; many people have acquired education as a result of remittances sent by their relatives in migration within Ghana. Migration could also help to improve food security through remittances in the form of food or cash, which enable households procure food from market.

The implication of the above analysis is that households can access health care because cash remittance affords them the ability to register with the national health insurance scheme and or meet the cost of medical treatment. This is likely to contribute to improvement in health and enhance their productivity, which would eventually increase income and thereby reduce poverty, all things being equal.

Another implication is that remittances help children in migrant households to access education in order to acquire training and skills. These enhance their potential as human resource (livelihood asset) and thereby facilitate employability

and ability to earn income. This could propel their households to exit poverty in the medium to long term. This confirms the findings of other studies that even child migrants from northern Ghana use part of their earnings to assist their younger siblings remain in school (Quartey and Yambila, 2009).

In addition, another positive effect of internal migration on poverty reduction is that remittance associated with it has strong implications at both micro and macro-economic levels. Remittances' effects at macroeconomic level are rather difficult to capture in Ghana. The most visible and immediate impact of remittances is on the households' consumption. This is important at macroeconomic level as being part of aggregate domestic demand component of the gross domestic product. But remittances also affect investments and savings. For instance, remittances received by households directly increase their disposable income; hence increase consumption which leads to temporary poverty reduction and ease household food insecurity. Thus, the finding concurs the view that internal migration leads to economic benefits that can reduce poverty (Ratha, 2003; Castaldo, *et al.*, 2012). These findings also confirm the assertion that internal migration is considered as a basic survival strategy employed by some individuals and households to cope with economic stresses (Agyei, 2012; Awumbila and Ardyfio-Schandorf, 2008; Castaldo, *et al.*, 2012).

V. CONCLUSION AND POLICY IMPLICATIONS

This paper focused on the significance of internal migration on development in terms of poverty reduction based on evidence from northern Ghana. Some studies have played down the importance of internal migration in overcoming household

poverty. This was based on the fact that transfer incomes from individuals are relatively low but they are received by many households. In addition, remittances are critical to the welfare of the households left behind. Thus, out-migration enables households to better their living conditions in a sustained manner.

Internal migration has strong positive effect on overall development through its contribution to poverty reduction. In view of this, it has implications for national development policies pertaining to migration. This calls for efforts to provide support for migrants at their places of destination. It is also important to take into account the pivotal role that remittances from internal migration can play potentially in improving household welfare. This implies downplaying the dominant discourse that considers internal migration negatively. For instance, many urban planners, policy makers and city administrators are apprehensive about rural-urban migration because it is perceived as inimical to urban development. Rather this phenomenon should be seen to have positive effect on economic growth and poverty reduction. This study may have implications for educators, counselors, policy makers and trainers and also for civil society organizations. The findings of this research have revealed some implications for future practitioners and researchers to further delve into dynamics and patterns of internal migration and their prospects for reducing poverty and vulnerabilities.

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