RURAL DEVELOPMENT AND OUT-MIGRATION FROM SMALL AND LARGE VILLAGES IN IRAN[1]

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ABSTRACT

This paper studies the impact of rural development variables upon out-migration in Iran. The analysis is based on a survey of 263 villages in Marvdasht region. The independent variables (Gini ratio, Khoshneshinha, wheat production per household, land man ratio and village development index) accounted for 28% of variability in migration rate from small villages. But in large villages, these variables were not able to explain the variation in migration rate. Suggestions for improving measurements of independent variables in future research are offered.

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توسعه روستائی ومهاجرت از روستاهای کوچک وبزرگ درایران

عزت اله کرمی وغلامرضا سلطانی

به ترتیب استادیار بخش ترویج وآموزش کشاورزی واستادبخش اقتصاد کشاورزی دانشکده کشاورزی دانشگاه شیراز- شیراز

خلاصـه

دراین مقاله اثرمتغیرهای توسعه روی مهاجرت ازروستا موردمطالعه قرار گرفته است. واکاوی داده ها مبتنی برتحقیق پیمایشی انجام شده از ۲۶۳ روستا درناحیه مرودشت می باشد. متغیرهای مستقل (ضریب جینی ،خوش نشین ها ،تولیدگندم سرانه خانوار، نسبت زمین به نفر ،وشاخص توسعه روستا)۲۸ درصد ازتغییرات درآهنگ مهاجرت را در روستاهای کوچک توضیح می دهند. اما درروستاهای بزرگ این متغیرها قادر به توضیح تغییرات درآهنگ مهاجرت نیستند .پیشنهاد اتی درزمینه بهبودمتغیرهای مستقل در تحقیقات آینده ارائه گردیده است .

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rural development and to measure, through rural surveys, the impact of rural development programs such as land distribution, rural electrification, sanitation, and changing access to social amenities on rural out-migration.

Rural migration is a major problem in Iran. Realizing the social cost of migrants and the negative impact of migration on agricultural output, the aim of the government is to achieve substantial reduction in the demographic shift toward urban areas. To this end some development programs have been undertaken to provide social and economic amenities and infrastructure services to rural areas. This study examines the impact of rural development variables upon migration flow in Iran. For this purpose a somewhat typical region is selected. The hypotheses that rural out-migration from villages in this region is negatively related to indices of village development and positively related to the concentration of land ownership is tested. Finally the potential for villages to produce income in relation to migration is examined. Towards this end, a brief description of background, data sources and methodology is given and then the results and the implications of the study are discussed.

METHODOLOGY

Background and Data Sources

Iran is a relatively large country with a population of about 50 million. Close to half of the population is considered rural and of this group, nearly 75% are living on some 2.5 million farms in about 50,000 scattered villages. The rest of the rural population are landless inhabitants (Khoshneshinha) (5).

Data used in the analysis were collected through a survey of some 263 villages in Marvdasht region (county) conducted in 1984. The region is in South Central Iran and is comprised of about 300 villages. Total agricultural land in the

75

region is about 135,000 ha, of which approximately 73% is cultivated each year and the rest left fallow.

While much of the agricultural labor is provided by family members, given the low level of mechanization, it is common for hired labor to be employed during peak labor demand periods, especially planting and harvesting seasons. The contribution of landless villagers to the farm labor force is about 20%.

The region has a population of approximately 200,000 people with a labor force (number of man-year and man-equivalent year) of about 55,000. Close to 64% of population is considered rural. A similar proportion of labor force (some 60%) is engaged in farming (crop and animal production), 17% in rural industry (carpet weaving) and the rest on off-farm activities in nearby towns and villages (6).

Out-migration Model

The term model is often used to denote symbolic representations of phenomena. A model can be used as a simplified representation of theory or conceptual scheme. In this study out-migration model can be represented by:

$$Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

where: Y = Out-migration, as measured by dividing the number of outmigrants in three consecutive years before the survey by population of the village at the end of the three years.

X_1 = Concentration of land ownership, as measured by Gini Ratio.

X_2 = Khoshneshinha, as measured by the number of Khoshneshin households in a village.

X_3 = Village development index, as calculated by summation of the weights given to facilities such as school (1), shops (1), sanitary water systems (2), consumer cooperatives (2),

electricity (3), postal services (3), health clinics (3) and telephone services (4). The values in the parentheses are the weights given to each facility based on the constraint for providing them in the development process.

X_4 = Wheat production index, as measured by wheat production per household.

X_5 = Land-man ratio, as calculated by dividing the number of hectares under irrigation in a village by the number of households.

This model proposes that out-migration is affected primarily by five factors: concentration of land ownership, Khoshneshinha, village development index, wheat production index and land-man ratio. The rational for inclusion of these factors in the model require further discussion.

Concentration of land ownership. Although inequality has long been topic of intense interest to development researchers, few have included socio-economic inequality within rural social systems, as a component in migration models. Migration from a village seems to depend on concentration of land ownership. As indicated, we would expect out-migration from a village to increase with concentration of land ownership. The landowner as the one who controls the land, controls the benefits which flow from it-chiefly those of a secure income and social status, with attendant advantages such as access to credit and political influence. When most of the land is owned by relatively few, the balance of the populace would experience substantial dependency unless they can organize a solid front against the owners or discover alternative sources of income. Both of these alternatives seem unlikely in the rural areas specially in the small villages. On the other hand as land ownership becomes concentrated the farm size will increase along with the degree of mechanization. The end result of this process is reduced demand for labor and higher migration.

77

One index of the equality of distribution of a good in a social system is the Gini ratio (2). This index which expresses the relative degree of concentration of a resource in a few or many hands can range from zero (complete equality) to unity (complete concentration).

Khoshneshinha. Next to farmers, Khoshneshinha are the second most important rural social group in Iran. Although they do not have access to agricultural land, they play an important role in the socio-economic activations of the village. They are not a homogeneous class and may have different socio-economic status. Those Khoshneshinha who run the business and commercial system of the village are economically the better off in rural social groups. Rural laborers who may be grouped as agriculture and non-agriculture labor force are among the poorest of Khoshneshinha. The number of Khoshneshinha in a village is an indicator of village development in commercial, rural industries and to some extent agricultural system. Therefore, in a study of migration which uses the village rather than individual as a unit of analysis it becomes an important variable. If we take this variable as an index of village development specially in the area of services and industry we should expect to find a negative relationship between migration rate from a village and the number of Khoshneshin households in the village.

Village development index. In order to manage migration flows so that population redistribution occurs along lines that are compatible with overall development, plans have been made to establish in the villages facilities that attract migrants. It is expected that such facilities will result in lower migration rate by reducing the effect of factors that attract migrants.

Wheat production index. The potential for a village to produce income is an important variable in the study of migration. Wheat is the major winter crop in the area studied,

78

therefore, the amount of wheat produced per household was used to indicate the potential for income generation.

Wheat production alone might not be a good measure for this purpose because animal husbandry and other crops and non-agricultural activities are also important sources of income. Wheat production as a single index was used due to limitation in the available data.

Land-man ratio. Another variable, also important in explaining income generation potential in a village was included in the out-migration model. This variable is the land-man ratio.

Wheat production per households and land-man ratio are included for the obvious reason that their increase will likely negatively affect the migration rate.

RESULTS AND DISCUSSION

Regression estimates using the model to predict migration for small and large villages are reported in Table 1 (villages with 50 or fewer households were considered small). These results illustrate that the independent variables measured by Gini ratio, Khoshneshin households, village development index, wheat production index, and land-man ratio, jointly account for about 28% of the variation in migration rates for small villages, but only 3% for large villages.

We attempt to explain these findings by comparing small and large villages on some selected variables. Table 2 shows that small and large villages differ significantly on four of the five independent variables. Large villages have a higher village development index than small villages, that is, development facilities are more numerous in larger villages. These facilities represent some of the key parameters which can help to reduce the pulling effect of urban centers on migration. The average number of Khoshneshin households in large villages is 84.61 compared with 7.23 households in small

Table 1. Regression of migration flows for small and large villages.

Type of village	Multiple R	R^2	F
Small villages	0.53	0.28	5.43*
Large villages	0.19	0.03	1.19

*Significant at 0.01 level.

Table 2. Comparison of mean scores between small and large villages for five selected variables.

Variables	Small village		Large village		t value	P
	Mean	SD	Mean	SD		
Village development index	2.06	2.53	6.29	3.93	-10.6	0.001
Khoshneshinha	7.23	7.65	84.61	141.23	-2.79	0.006
Yield (wheat)	2587.2	1005.8	2690.4	848.3	-0.84	0.400
Gini ratio	0.347	0.21	0.508	0.201	-5.72	0.001
Migration rate	0.037	0.094	0.013	0.05	1.96	0.050

villages. This finding indicates that large villages absorb more landless inhabitants in commercial services and rural industries than do small villages. It is interesting to note that while large villages have more Khoshneshin households, they have significantly a lower migration rate compared with small villages. The average migration rate for large villages was 1.3% and for small villages it was 3.7%. Small and large villages differ significantly on the concentration of land ownership. The Gini ratio for large and small villages are 0.50 and 0.34 respectively. There was no significant difference between yield of wheat crop in small and large villages.

These comparisons clearly indicate that Gini ratio, Khoshneshin households, village development index, wheat production index and land-man ratio are not good predictors of migration rate in large villages. Four of these variables are closely associated with land. In large villages the dependency of people on land as the sole source of income is less and rural industries, poultry production, commercial services, and other non-land related activities play a much more prominent role in the socio-economic structure. Realizing the significance of using village as a unit of analysis, it is essential to modify the variables used in migration model of the present study based on the current findings. To this end concentration of income might be included instead of concentration of land ownership. Moreover, income generation variables might be more inclusive. It may be necessary to consider non-agricultural sources of income in the model. As explained in the preceding sections of this paper, Khoshneshinha are not a homogeneous group and different groups of Khoshneshinha may have different impacts on migration. Therefore Khoshneshinha as an independent variable should be divided to subgroups. Village development index is also an aggregate measure which includes several social and economic aspects in a village. Inclusion of more specific dimension

of development in the migration model may result in better explanation of migration. The reason behind this suggestion is the possibility that not all the parameters which constitute this variable have the same impact on migration. Adams (1) suggests that improved and expanded educational facilities in rural areas, other things being equal, will likely accelerate rural to urban migration. On the other hand, while solid data base is lacking it is expected that establishment of welfare and commercial services will reduce the migration rate.

The five independent variables used for predicting migration from small villages using multiple regression are given in Table 3. The null hypothesis tested is that in small villages there is no significant contribution of any of the five independent variables to the predictability of the dependent variable-migration.

Table 3 shows that only two independent variables (Gini ratio and Khoshneshinha) are contributing significantly to variation in the dependent variable. The partial regression coefficient for wheat production index, land-man ratio, and village development index is not significant. Gini ratio for concentration of land ownership explained 11.8% of variability in migration rate in small villages. The findings indicate that as land ownership becomes more concentrated the migration rate increases ($r = 0.33$). Therefore, in order to reduce the migration rate from small villages, a more equitable distribution of land is vital. Current ideas affecting rural development which stresses equitable distribution of resources seem to be an appropriate strategy if a lower migration rate is accepted as a desirable development goal. Number of Khoshneshin households accounted for 15.2% of the variance. As expected, the number of Khoshneshin households was negatively related to the migration rate ($r = -.16$). If we take the number of Khoshneshin households of a village as an index of village development in commerce, industry, and services,

82

Table 3. Out-migration model for small villages.

Variables	Multiple R	R^2	R^2 Changed	Partial regression coefficient	F
Gini ratio	0.334	0.118	0.118	0.272	22.27*
Khoshneshinha	0.518	0.269	0.15	-0.57×10^{-2}	14.06*
Wheat production /households	0.531	0.282	0.012	0.802×10^{-2}	0.52
Land-man ratio	0.532	0.284	0.001	-0.15×10^{-2}	0.16
Village development index	0.534	0.285	0.001	0.15×10^{-2}	0.14
(constant)				-0.023×10^{-2}	

* Significant at 0.01 level.

then we can influence the migration rate by investing in these areas.

According to the model, only 1.4% of total variation in the migration rate is accounted for by the other three independent variables, viz, wheat production index, land-man ratio and village development index. However, the usefulness of these variables for predicting migration in the future studies may be improved by implementing the recommendations presented above.

CONCLUSION

Ignoring the problems created by the migration of rural people to the cities, rural-urban migration still has major implications for agricultural development in Third World countries. While many potential innovators and early adopters of new agricultural techniques are leaving agriculture and migrating to larger population centers, the rate of adoption for these agricultural techniques will be slowed down.

The majority of existing migration studies have failed to provide recommendations which might lead to effective planning for rural development. We took one step forward by using village as a unit of analysis and also including variables which could be manipulated in a development project.

ACKNOWLEDGEMENTS

REFERENCES

1. Adams, D.W. 1969. Rural migration and agricultural development in Colombia. Economic Development and Cultu al Change 17: 527-539.
2. Allison, P.A. 1978. Measures of Inequality. American Sociological Review. 43: 865-880.

3. Falaris, E.M. 1979. The determinants of internal migra-
   tion in Peru: an economic analysis. Economic Development
   and Cultural Change 27: 327-341.

4. Goldstein, S.S. 1979. Migration and Rural Development.
   Economic and Social Development, Paper No. 8, Food and
   Agriculture Organization of the United Nations. pp. 54.

5. Soltani, G.R. 1982. Labor productivity on small farms
   in relation to rural migration: The case of Iran. Iran
   Agric. Res. 1: 147-161.

6. Soltani, G.R., J. Torkamani, B. Najafi and M.A. Manshadi.
   1985. Problems of agricultural development in Fars pro-
   vince. Research Report No. 2, Department of Agricultural
   Economics, Shiraz University, Shiraz, Iran. (In Persian).