
**SOCIO-ECONOMIC CHARACTERISTICS OF POVERTY AND THEIR
IMPACT ON SEASONAL MIGRATION IN THARPARKAR DISTRICT,
SINDH, PAKISTAN: A LOGISTIC REGRESSION ANALYSIS**

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ABSTRACT

Migration is a real phenomenon of this world. Migration takes place due to different reasons like; social, economic and environmental reasons. Migration is common in Pakistan and many kinds of migrations are happening in Pakistan for instance; international and internal migration, legal and illegal migration, permanent and temporary/seasonal migration. Apart other migration, seasonal migration is mostly occurred in hilly and desert areas of Pakistan. Tharparkar is also included in desert parts of Pakistan where seasonal migration is part of life of local inhabitants. This research is based on qualitative and quantitative data. For collecting data the settled parameter are: socio economic conditions such as; education, health, family size, family occupation, earning, government facilities, and family assets. After collecting and compiling data, Logitlinear regression model are applied and these models confirmed that, seasonal migrants are poorest segments of community in Tharparkar and it is lack of economic opportunities which compels them to leave their homes to search work for survival. In the context of research study it is concluded that, poverty is main factor behind seasonal in Tharparkar districts. To overcome this issue serious steps are required by government on emergency basis as to uplift the conditions of seasonal migrants.

Keywords: Seasonal Migration, Poverty, Logit Model, Socio-Economic Characteristics.

INTRODUCTION

Movement of people from one place to other place is called migration. People are forced to leave their actual place of birth due to many factors. Among many factors one of the major factors is poverty. Poverty is; lack of access towards basic needs, not having sufficient food to eat, unable to see doctor in case of illness, unable to read, not having knowledge or basic skills through which one can earn enough or increase income, forced to drink contaminated water which may harm their health. Powerlessness and insecurity are also counted as poverty. Globally, 780 million people are unable to have water supply facility and 2.5 billion populations is not using

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sanitation facility. Yearly 2 million deaths are happening due to unsafe water and sanitation; almost 90% children die from water borne diseases such as diarrhea etc. Poverty means people who are living with less than 1.9\$ per-day (WB, 2015). According to World Bank, globally more than 702 million people were living with less than 1.9\$ per-day in 2015. It is poverty and inequalities which forced people to migrate towards those areas where resources are available as to survive. Migration is frequent in Asian countries; inequality in economy due to unequal access to land and education are the driven factors of migration (Pasruk and Isra, 2000). Samita and R Natrjan, (2013) have also concluded same, according to them; there are two human needs; Psychological needs and social needs. Once needs fulfilled than desires comes-out and people wish to make love and friendships. But, it is poverty which confines the resources of households and makes them unable to fulfill both needs and desires; resulting people get migration towards rich resources. This research explores the association of poverty with seasonal migration of Tharparkar. The data was analyzed by using STATA 14 version and applied Logit model in order to see the impact of socio-economic characteristics of the households on their seasonal migration to the adjacent districts.

PREVIOUS STUDIES

Previously, various studies have been conducted on the impact of socio-economic characteristics on seasonal migration. According to Bhagat, (2010) seasonal migration is a kind of migration, to shift for a particular period of time with intention of being back to their place of origin. A study carried out by Samita (2008) reveals that people seasonally migrate mainly because of lack of employment opportunities in Maharashtra, Karnataka and Utter Pradesh provinces, and drought in Rajasthan and Gujarat provinces, respectively. She further explored that the migrant households with higher levels of education also seasonally migrate to urban areas in search of jobs, whereas less educated households seasonally migrate from one rural area to another. Similarly, (Start, 2003) studied that seasonal migration in drought prone areas takes place due to illiteracy and landlessness. Gorlich & Trebesch, (2006) observed that poverty itself is main push factor behind migration, these poor migrants are uneducated and they cross border every year for few months at time of harvesting. Both of them further concluded that, high number of labour in Moldova and downfall of rural economy was main factor behind seasonal migration. Beside these factors one of the factor is family-friends networking which plays a significant role facilitate families to become seasonal migrate. Zafar, A., (2006) concluded that, seasonally migrant families of north region of Bangladesh are usually agri-workers and dearth of crop variations force them to leave homes because, they mostly produce only one or two crops and after plantation of aman in Sep-October months farmers have no work at their home villages and they become

jobless. Unemployment and limited work opportunities force families to shift areas where economic resources or work is available. Chaudhry (1978) in his study analyzed that the household characteristics such as age, gender, education levels, type of work, family property, land accessibility and irrigation services are significant factors influencing seasonal migration. The study further revealed that less educated households choose to migrate for shorter distances with a limited period of time in order to come back comfortably to their place of origin. Khan (1982) concluded that socio-economic differences are the root cause of short-term migration in Bangladesh. Hossain (2001) revealed that poverty, desire of job and networks at destination are the push determinants of seasonal rural-urban migration. Sakiba Zeba *et.al.*, (2007) emphasized that, instead of urban-pull factors, poverty-lead factors like; low income/wages, lack of employment consistency, dearth of crop diversifications and ecological issues (land degradation, droughts, low monsoon rain falls etc.). Schraven and Schulz (2014) investigated that small profit and the resulting food insecurity due to the low crop production compel rural households to leave their agriculture work and migrate temporarily towards areas where non-agriculture work is available. Families migrate as to earn money and food in order to fulfill household food needs. Most of farmers in Ghana think that, without seasonal migration, managing family food needs is impossible (Geest, 2011). Migration of people is usually influenced by the difference of wages between place of origin and destination including travelling expenses. Political instability, conflicts, high population growth rate, land ownership and shortages of water for irrigation augmented the interior migration (Msigwa, 2017). In Pakistan, most of the households migrate in order to find jobs, get economic benefits and improve their family status (Gazdar, 2003). Anarfi, J. (2003) observed that absence of social, cultural and economic services are also causing households from deprived areas to shift areas where social and economic services are available.

CASE STUDY AREA

Desert is spread from Cholistan Punjab to Nagarparkar Sindh, and in India, from Haryana to Rajasthan. Tharparkar is one of the most thickly populated deserts in the world with 1.2 million inhabitants (EIA, 2014). As per census 1998, 40 percent population of Thar is Non-Muslims. Tharparkar is the only district in Pakistan where a large population of Hindus is living (Makki, M., 2014). Due to geographical conditions, Tharparkar has inadequate economic opportunities. Survival of communities is not easy. District is counted among the most food-insecure, poor and neglected district in Sindh Province (Akbar, 2014). 90 percent of households' livelihood depends upon livestock and agriculture; eight percent are labourers or running their businesses, only 2 percent people have government or private

jobs². Shortage of economic activities and distance of the area created pervasive joblessness. Land of Tharparkar is divided in three categories: (1) area, where river water is available for cultivation (Kaloi, Diplo and Mithi sides), (2) hilly area where ground water is sweet and available for agriculture (Nagarparkar), and (3) desert area which is totally rely on rainfall and it is that part which is always on high risk of droughts and for survival; migration is their only option. People who are on high risk they are most likely to get migration. To maintain assets and livelihoods, hundreds of families migrate to ‘agri-belt districts of Sindh (Herani, 2002; Suthar, 2012). Mostly, Bheel and Kolhi Hindu communities migrate with their livestock to the neighbouring districts till the next Monsoon (EIA, 2012). Though ladau (migrants) are being considered as “role communities” (low social standing /slang) in local communities but poor families have only option to survive. PPAF (Pakistan Poverty Alleviation Fund) also conducted a survey in Tharparkar with the support of World Bank in 2010 in 44 UCs of the respective district and as per survey: in Mithi Taluka, average ultra-poor are 13 percent of total households in the district and vulnerable poor are 23 percent. In Diplo, average ultra-poor are 15 percent and vulnerable are 25 percent, making this Taluka relatively high in terms of poverty. In Nagarparkar, 12 percent households are ultra-poor, whereas 23 percent are vulnerable. At the district level, 44 percent households are non-poor, whereas 56 percent lives below poverty line.

TABLE-1
POPULATION UNDER POVERTY IN THARPARKAR IN % (2013-14)

District	(0-11)	(12-18)	(19-23)	(24-100)	(0-100)
	Ultra Poor	Vulnerable poor	Transitory poor	Non Poor	Total
Tharparkar	12	23	20	44	100

Source: Benazir Income Support Program (BISP, 2012-13).

According to (Consortium Management Unit, 2014) big chunk of the population that have migrated along whole family in 2014 were from the Bheel and Kolhi communities (64%), the next largest community was Menghwar (6%). UN-funded survey revealed that, 90 percent of Thari women are about to underweight, with a mean weight of 44.2 kg and there are nearly 93 percent households who do not have food-buying capacity in Thar. As per food security assessment 2009, Tharparkar is the lowest district in access to food index in Pakistan and 53.4 percent of the population is not

² FDRP (Fast Rural Development Program): Assessment of Needs in the context of Drought Effects in Tharparkar, 2015, p.5.

food secured and positioned top in Sindh and 17th in Pakistan as food insecure districts.

All above data supporting that, almost 90 percent population’s income source is agriculture and livestock; both resources are concerned with climate and due to climate change proper rain fall is decreased. Tharparkar needs average 300 mm rainfall but data shows that, the average rainfall has been declining over the last few years in Tharparkar. If we compare the average level of 2015 to 2016 of same months situation is worsening in 2016 (JSWO, 2016).

ECONOMETRIC MODELING FRAMEWORK

The main objective of this study is to explore and analyze the socio-economic characteristics affecting seasonal migration in district Tharparkar, Sindh, Pakistan. The data collection was divided in two-phases. In the first phase, semi-structured interviews were conducted in order to obtain the relevant information regarding the socio-economic characteristics of the households located in the different villages of various Talukas of district Tharparkar. The interviews were conducted with the consent of respondents, who were head of the households. The interviews took 20 minutes time on average to complete the interview process. Based on information obtained during the first-phase, a questionnaire was designed for the detailed data collection process during the second-phase. A sample of 440 households from 21 villages of different Union Councils (UCs) and Talukas of Tharparkar district was selected through cluster random sampling procedure. The data was analyzed using STATA 14 version. In order to test our hypothesis, independent samples *t* test and Logit model in order to analyze the impact of socio-economic characteristics of the households on their seasonal migration to the adjacent districts.

$$\log\left(\frac{P}{1-P}\right) = \frac{1}{1+e^Z}$$

$$Z = P_0 + B_1X_1 + \dots \dots \dots B_nX_n + e_i$$

Where Z is dependent variable seasonal migration, P_0 is constant, B_1 , B_2 , are the coefficients of independent variables whereas $X_1, X_2, X_3, \dots, \dots$ are representing our dependent variables which are; age level of family head, possession of land, land cultivation, family having livestock, household structure, household income, family having debt, non-going school children, child work, distance of water and distance of city.

Above given characteristics were particularly nominated in order to examine the influential factors of seasonal migration in regard of poverty in Tharparkar district (see Table-1)

Using logistic binary regressions analysis, hence, intend to test the following hypotheses:

Hypothesis 'H': Secondly migrated community is the poorest community of Tharparkar.

Parameters: Age level of family head, education, family occupation, household size, land cultivation, family having livestock, household structure, household income, family having debt, non-going school children, child work, distance of water and distance of city.

Analytical Tools: Tabulation, Percentages, minimum and maximum value, mean value of variables, standard deviation, and logistic binary regression model.

RESULTS AND DISCUSSIONS

Tharparkar is a desert area; localities are totally relying on rainfall. More than 90 percent of local population rely on rain water to drink, wash and irrigate their land which is insufficient to fulfill above given needs resulting hundreds of families migrate to 'agri-belt districts of Sindh to find jobs to survive. In this research, socio-economic Characteristics of seasonal migrants were analyzed. Socio-economic characteristics were divided in three sub-characterises such as:

Household Characteristics: (Age, household size, household income, personal income, household expenditures, family having debt, out of school children, household structure, work of male family member, child work).

Livelihood Characteristics: (Land holding, land cultivation, family having livestock, Livestock mortality due to drought).

Distance characteristics: (Water distance, hospital distance, city distance).

It is generally observed that the household characteristics including age of household head and household size have significant role in seasonal migration. Data analysis of this research also revealed that the household size of seasonally migrant households is high compared to average household size of Sindh province including Pakistan. Mean household size of interviewed households is 6.6 whereas average household size Pakistan is 6.3. It is also observed that mean value of household income of migrants households is on Rs.9628. Likewise household income, household expenditures are also low and average household expenditures of interviewed migrants households is Rs.8758. In regard of land holding, data shows mean average of land holding of interviewed households is 8 acres whereas cultivation of land is only 5acres. Animals are also counted as an important livelihood source of households and their mortality is considered as a big loss among households. Data shows that more than 95 percent interviewed households have lost their livestock due to droughts with average of 0.21. In term of distance of basic

human facilities, it is observed that mean value of water distance is .61 Km while mean value of hospital distance from migrant households residences is 14.8 Km. Average city distance is 28.8 km (see table 2).

TABLE-2
DESCRIPTIVE STATISTICS

Socio-Economic Characteristics	Mean	Std. Dev	Min	Max
Household Head Age	41.76136	1035255	20	63
Household Size	6.645455	2.523101	3	15
Household Income	9628.182	3403.024	5000	20000
Personal Income	1647.633	803.8701	384.62	6200
Work of male family member	2.190909	0.654342	0	6
Household Expenditures	8758.409	2668.61	1100	20000
Family having Debt	0.365909	0.482233	0	1
Household Structure	0.052273	0.22283	0	1
Children Never go School	0.881818	1.034545	0	5
Child Work	0.234091	0.423911	0	1
Land Holding	8	4.108439	0	20
Land Cultivation	5.147727	3.329785	0	15
Family having Livestock	9.531818	3.914681	0	19
Livestock mortality	0.211364	0.40874	0	1
Water Distance	0.618182	0.842161	0	3
Hospital Distance	14.80682	11.46656	1	45
City Distance	28.86136	16.10745	3	45

For finding further results, logistic binary regression model is applied. As our dependent variable 'seasonal migration' has two values, weather family seasonally migrate or not from their native place so, we used Logistic binary regression model for data analyze. Binary Logistic Regression is a regression where, dependent variable is interconnected with number of independent variables, which can be discrete or continuous. Our dependent variable was 'Seasonal migration' whereas independent variables were; age level of head of household, Household size, Having land, cultivation of land, having livestock, household income, personal income, household expenditures, family having debt, children never been in school, child work, household structure, water distance, hospital distance, city distance, livestock mortality ratio due to drought, number of male member work.

The model shows that, nominated determinants, such as; age level of family head, Household size, Having land, cultivation of land, having livestock, household income, personal income, household expenditures, family having debt, children never being school, child work, household structure, water distance, hospital distance, city distance, livestock mortality ratio due to drought, number of male member work are found highly significant at probability level of 0.01 at 95% confidence level. The overall

R^2 is 0.841 which shows that, around eighty four percent variation in dependent variable (DV) is accounted for the above mentioned variables. In regard of sign, model shows, determinants, such as; age level of family head, cultivation of land, having livestock, household income, household expenditures, child work, household structure, water distance, hospital distance, livestock mortality ratio due to drought have positive significant relation with dependent variable (seasonal migration) while household size, Having land, personal income, family having debt, children never being school, city distance, number of male member work are highly significant with negative relation to dependent variable.

TABLE-3
BINARY LOGISTIC REGRESSION

Socio-economic Characteristics	Coef.	Std. Err	Z	p-values
Household Characteristics				
Age	0.1152	0.0423	2.72	0.006
Household Size	-2.0084	0.4928	-4.08	0.000
Household Income	0.0012	0.0003	3.71	0.000
Personal Income	-0.0058	0.0011	-5.22	0.000
Household Expenditures	0.001	0.0003	3	0.003
Family having Debt	-4.2328	0.7892	-5.36	0.000
Children Never went to School	-3.4477	0.8571	-4.02	0.000
Household Structure	4.2963	1.2006	3.58	0.000
Work of male family member	-1.8521	0.7793	-2.38	0.017
Child Work	5.5621	1.0766	5.17	0.000
Livelihood Characteristics				
Land Holding	-0.6336	0.2778	-2.28	0.023
Land Cultivation	1.6330	0.3966	4.12	0.000
Family having Livestock	0.4820	0.1215	3.97	0.000
Livestock mortality due to drought	2.2961	0.9068	2.53	0.011
Distance Characteristics				
Water Distance	1.8470	0.4389	4.21	0.000
Hospital Distance	0.0853	0.0271	3.15	0.002
City Distance	-0.1059	0.0237	-4.47	0.000
Constant	-9.7848	3.8819	-2.52	0.012
Model Fit Statistics				
Log Likelihood	-37.494986			
Number of observations	440			
Wald chi ² (17)	67.17			
Prob > chi ²	0.000			
Pseudo R ²	0.841			
Akaike Information Criterion (AIC)	110.99			
Bayesian Information Criterion (BIC)	184.55			

CONCLUSIONS

Model results show that, age level of family head, Household size, Having land, cultivation of land, having livestock, household income, personal income, household expenditures, family having debt, children never being school, child work, household structure, water distance, hospital distance, city distance, livestock mortality ratio due to drought, number of male member work are found highly significant at probability level of 0.01 at 95% confidence level. The overall R^2 is 0.841 which shows that, around eighty five percent variation in dependant variable (DV) is accounted for the above mentioned variables. All above results shows that, our hypothesis is significant. It is lack of economic opportunities which are causing people to leave their native places as to find work for earning in order to cope up with poverty and be able to survive.

RECOMMENDATIONS

Study results confirmed that, seasonal migrants are poorest segments of community in Tharparkar and it is lack of economic opportunities which compel them to leave their homes to search work for survival. To overcome this issue serious steps are required by government side on emergency basis as to uplift the conditions of seasonal migrants. Once their economic conditions are better, they have no need to migrate towards agri-belt districts of Sindh. Study recommendations are given below:

- High-powered organization/Authority must be formed to carry out essential works in in Thar. This body should make food and fodder reserves. They also remove infrastructural shortage, to increase veterinary services and widen the size of people's economic activity.
- Government should plan new economic activities in small and far-flung villages of Tharparkar so that the people could find employment opportunities within their native or near to their native villages.
- There should be microfinance and safety nets facilities to provide them so that the people could have an access to credit for livestock and small businesses.
- Local artisans should be encouraged and linked with markets as they can get good price to earn enough cash.
- BISP (Benazir Income Support Program) could be one of the powerful tools of reducing poverty in Thar so; the majority of poor households should be supported by BISP (Benazir Income Support Program).
- Health is big issue in Thar. Every year deaths of hundreds of children and mother are witnessed so, till government provide health facilities at door steps of localities, poor families should be covered by micro-health insurance (MHI) under umbrella of BISP.
- Royalty of minerals (Coal and Stones) should be utilized for development of localities on urgent basis.

- There should be effective communication, transport and monitoring systems as plight conditions of localities especially seasonally migrant workers could be shared with policy makers every year. This will support them in making beneficial and appropriate policies.
- Water and sanitation-Water and sanitation situation should be improved and government should insure provision of safe water in Tharparkar. Awareness regarding sanitation should be priority of Government.
- Government should start awareness programs to motivate localities to stock essential food items.
- Government should appoint local competent officers (on key government posts) or those who are fully aware about the socio-political, socio-economic and socio-cultural scenario of Tharparkar as they work well in Tharparkar.
- Work for cash or food projects: Government should start projects in which people have been given work and in return of work they have been given cash amount or food.

REFERENCES

- Abu Zafar Md. Shahriar, S. Z. (2006). Seasonal Migration of Labor in the Autumn Lean Period:Evidence from Kurigram District, Bangladesh. *Ess Working Paper Series Paper 007*.
- Akbar, A. W. (2014). Demographic, Social and Economic Changes in Tharparkar (1988-2006). An Analysis. *Indus Journal of Management and Social Science: Vol. 1, No. 2:107-128 (Fall, 2007)*.
- Bhagat, R. B. (2010). Internal Migration in India: Are the Underprivileged Migrating More?, *Asia Pacific Population Journal*, 25 (1):27-45.
- Christina Rademacher-Schulza, B. S. (2014). Shifting seasonal migration in Northern Ghana in response to rainfall variability and food insecurity. *Climate and Development*.
- Company, S. E. (2014). *Environmental and Social Impact Assessment*, Volume 1 of 2. Karachi, Sindh, Pakistan: Hagler Bailly Pakistan.
- Gazdar, H. (2003). A review of migration Issues in Pakistan. *Collective for Social Science Research*, Karachi Pakistan.
- Geest, K. v. (Oct.13 -14, 2011). Migration, Environment and Development in Ghana. *International Conference: Rethinking Migration: Climate, Resource Conflicts and Migration in Europe*. Nieuwe prinsengracht, Amsterdam, Europe: Amsterdam Institute of Social Science Research, University of Amsterdam.
- Görlich, D., & Trebesch, C. (2006). Mass migration and seasonality: Evidence on Moldova's labour exodus. *cege - Center for European, Governance and Economic Development*.
- Hossain, M. Z. (2001). Rural-Urban Migration in Bangladesh: A Micro-Level Study. *Research Gate*.

- John Anarfi, S. K.-M. (2003). Migration from and to Ghana:A Background Paper; Working Paper C4. *Development Research Centre on Migration, Globalisation and Poverty* .
- Khan, A. A.-M. (1982). Rural-Urban Migration And Urbanization In Bangladesh, Number 4, Volume 72. *American Geographical Society*, pp. 379-394.
- Msigwa, R. E. (2017). Determinants of Internal Migration in Tanzania. *Research Gate*.
- Muhammad Makki, S. H. (2014). Religious Identity and Coal Development in Pakistan':Ecology, Land Rights and the Politics of Exclusion. Center for Social Responsibility in Mining (SMICSRM); University of Queensland Austrelia.
- Sakiba Zcba, Z. A. (2006). Seasonal Migration of Labor in the Autumn Lean Period:Evidence from Kurigram District, Bangladesh. *Ess Working Paper Series* 007.
- Samita. (2008). Distress Seasonal Migration and its Impact on Children's Education. *Consortium for Research on Educational Access, Transitions and Equity* (Create).
- Start, P. D. (2003). Seasonal Migration for Livelihoods in India:Coping, Accumulation and Exclusion. *Overseas Development Institute Working Paper* 220.
- TRDP (2014). Survey Report-2014, published by Thardeep Rural Development Programme (TRDP), Mithi, Tharparkar, Sindh, Pakistan.
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