

APPENDICES
APPENDIX-I
HOUSEHOLD SURVEY SCHEDULE FOR
RURAL OUT-MIGRANT RESPONDENTS OF KOCH BIHAR DISTRICT, WEST
BENGAL (2017-2018)

A. PERSONAL INFORMATION OF THE RESPONDENT

Name of the respondent:
 Father's name: Religion:
 Caste: Gen/SC/ST/BC/OBC
 Village/city.....
 Block Name.....
 District.....
 Place of interview:
 Date:
 Time:House Number:

B. FAMILY-MEMBERS' INFORMATION OF THE RESPONDENT:

Sl No.	Name	Relation to migrated workers	Sex (M/F)	Marital status**	Age of marriage	Age	Education ***	Occupation ****
1								
2								
3								
4								
5								
6								
7								
8								
9								

N.B. **Marital status: a).Married-1, b).Unmarried-2,c), Widowed-3, d).Divorced-4.

***Education: a) Primary (I-IV)-1, b)High School (V-X)-2, c)Higher Secondary-3, d) (XI-XII)-4,e) Graduate (B.A)-5,f) Post Graduate (M.A)-6, g) PhD/M.Phil-7, h) Diploma-8, i)Vocational-9, j)Others (specify)-10.

****Occupation: a). Cultivation-1, b).Agricultural labour-2, c).Business-3, d).Construction labour-4, e).Govt. Service-5, f).Private service-6, g).Agent of any organisation (e.g., LIC/NGOs etc.)-7, h).Student-8, i). House wife-9, j). Infant-10

C. GENERAL INFORMATION OF THE FAMILY:

Where does your family live?	A. Village/rural-1 B. Town/urban-2 C. Government-3	
Do you have own house?	A. Yes-1 B. No-2	
Types of house;	A. Pucca-1 B. Kutcha-2 C. Semi-pucca-3	
Number of rooms in your house;	A. One-1 B. Two-2 C. Three-3 D. Four-4 E. Five-5 F. More than-6	
Do you have separate kitchen room?	A. Yes-1 B. No-2	
Main sources of lightning	A. Electricity-1 B. Kerosene-2 C. Solar Energy-3 D. Others	
Do you have electricity connection in your houses? Yes/No	A. Yes-1 B. No-2	
What is the source of drinking water?	A. Tap Water-1 B. Home tube well-2 C. Government deep tube well water-3 D. Others-4	
Availability of latrine?	A. Yes -1 B. No.-2	
Types of latrine	A. Flush/Pour latrine-1 B. Pit latrine-2 C. Service latrine-3	
Have you any cultivable Land of the family?	A. Yes-1 B. No-2	
If, yes, Amount of the land		
What is the type of land?	A. Irrigated land-1 B. Non-irrigated land-2 C. Barren land/wet land-3 D. Wasted land-4	
Total Amount of land?		
What are the main agricultural crops produces?	A. Rice-1 B. Wheat-2 C. Tobacco-3 D. Maize-4 E. Mustered oil-5 F. plantation agriculture-6	
Have you taken any ledged land for	A. Yes-1	

	<p>B. 7-12 months-2 C. 1-2 years-3 D. 3-5 years-4 E. More than 5 years-5</p>	
<p>What is the main reason for out-migration?</p>	<p>A. Employment/better employment - 1 B. Studies (2) C. Marriage (3) D. Movements of parents/earning member (3) E. Lack of land (4) F. Epidemics (5) G. Flood (6) H. Drought (7) I. Business (8) J. Others (9)</p>	
<p>What is the reason for moving at destination?</p>	<p>A. Availability of work-1 B. Better prospect of the family-2 C. Relatives or friends present at the destination-3 D. Availability of shelter-4</p>	
<p>Who was the decision maker in leaving your birth place or place of origin?</p>	<p>A. Self-1 B. Relatives-2 C. Friends-3 D. Parents/family-4 E. Employer-5 F. Others (Specify)-6</p>	
<p>Did anyone from your place of birth leave with you?</p>	<p>A. Yes-1 B. No-2</p>	
<p>If your answer is “yes”, who moved with you? So, the mode of out-migration?</p>	<p>A. Self migration-1 B. Family migration-2 C. Group migration-3 D. Other (Specify)-4</p>	
<p>Total number of migrated person from your family? (give the details in gender-wise)</p>	<p>Total= Male= Female=</p>	
<p>What was your main source of information to move to your birth place?</p>	<p>A. Education- 1 B. Mass media-2 C. Contact with people who known as <i>Thikadar</i>-3 D. Previous knowledge (personal visit) -4 E. Other (specify)-5</p>	
<p>What was the primary activity before out-migration?</p>	<p>A. Self-employed in agriculture-1 B. Casual labour-2 C. Student-3 D. Self-employed in non-agricultural sector-4</p>	

	<p>E. Govt. service-5 F. Private service-6 G. Unemployed-7 H. Others-8</p>	
<p>What is your present activity at destination?</p>	<p>1. Labour in Construction - 2. Construction Contractor/<i>Thikadar</i> 3. Painter 4. Carpenter 5. Security Guards 6. Agricultural field 7. Labour at brick kilns 8. Agent of labour supplier 9. Auto driver 10. Factory labour 11. Trailors 12. Vendors 13. Maid-servant 14. Govt. service 15. Business</p>	
<p>How long at current job?</p>	<p>A. Less than 6 months-1 B. 6 months-1 year-2 C. 1 year-1.5 years-3 D. 1.5 years-2 years-4 E. 2 years-2.5 years-5 F. More than 3 years-6</p>	
<p>Have you previous migration experience?</p>	<p>A. Some experience-1 B. No experience-2</p>	
<p>Who maintain the guardianship of the family during migrant's absence?</p>	<p>A. Migrant's parent-1 B. Migrant's sibling-2 C. Wife of the migrant-3 D. Husband of the migrant-4 E. Son of the migrant-5 F. Other relatives-6</p>	
<p>Management of household activities in the absence of Emigrants-</p> <p>a. Agriculture/business b. Financial management c. House construction d. Medical care e. Communication with migrant f. Education of children</p> <p>(N.B: Select every item and give the details who manages of the particular item)</p>		
<p>What is time of out-migration from village? If another time, please specify it?</p>	<p>A. September-1 B. October-2 C. November-3 D. Others specify it-4</p>	

What is the time of return migration into the village? If another time, please specify it?	A. March-1 B. April-2 C. May-3 D. Others , specify it-4	
Where are you staying in your job?	A. Working site-1 B. Rented house-2 C. Others (specify)-3	
Frequency of visits by the out-migrant to their native place;	A. Three or more than in a year-1 B. Twice inn a year-2 C. Once in a year-3 D. Rarely-4	
No. of rooms in staying house	A. Single-1 B. Double-2 C. Tripple-3	
Is there any extra kitchen room?	A. Yes-1 B. No-2	
Is there any sanitation facility?	A. Yes-1 B. No-2	
Number of working days per week, before migration?	A. Four to five days-1 B. Five to six days-2 C. Six to seven days-3	
Number of working days per week, after migration?	A. Four to five days-1 B. Five to six days-2 C. Six to seven days-3	
Time of working hours per day, before migration?	A. Three to four hour-1 B. Four to five hour-2 C. Five to six hour-3 D. Six to seven hour-4 E. Seven to eight hour-5 F. More than eight hours-6	
Time of working hours per day, after migration?	A. Three to four hour-1 B. Four to five hour-2 C. Five to six hour-3 D. Six to seven hour-4 E. Seven to eight hour-5 F. More than eight hours-6	
How often did you receive your wages before migration?	A. Daily-1 B. Weekly-2 C. Monthly-3 D. Occasionally-4	
How often do you receive your wages after migration?	A. Daily-1 B. Weekly-2 C. Monthly-3 D. Occasionally-4	
How much your wage rate/day (in Rs.) before migration?		

How much your wage rate/day (in Rs.) after migration?		
How much total expenditure (in Rs.) of your family in a month before migration?		
How much total expenditure (in Rs.) of your family in a month after migration?		
What are the different modes of Expenditure of the migrant households? <i>(N.B; Give the amounts (Rs.) of expenditure of the said items)</i>	A. Household expenditure on food-1 B. Agriculture invest-2 C. Expenditure in education of dependent-3 D. Marriage and other Social functions-4 E. Buying land and building house-5 F. Saving and others-6 G. House construction-7 H. Debt-8	
Frequency of Sending money Remittances to Home <i>(N.B; Give the amounts (Rs.))</i>	A. Monthly-1 B. Once in 2-3 months-2 C. Once in 3-4 months-3 D. Once in a year-4 E. Once only after migration-5 F. Not yet send-6	
Mode of money Sending Remittances	A. By own bank account-1 B. By others bank account-2 C. Money order-3 D. Post office-4 E. Through fellow migrant workers-5 F. Not yet send-6	
Main Purposes of remittances		
Have you personal bank account?	A. Yes-1 B. No-2	
Monthly income (in Rs.) of the migrant workers before migration?		
Monthly income (in Rs.) of the migrant workers after migration?		
Job satisfaction on the working place;	A. Yes-1 B. No-2	

Use of dresses before migration;	A. Traditional-1 B. Modern-2	
Use of dresses after out-migration;	A. Traditional-1 B. Modern-2	
Languages known before migration;	A. Bengali-1 B. Hindi-2 C. English-3 D. Nepali-4 E. Urdu-5 F. Others (specify)	
Languages known after migration;	A. Bengali-1 B. Hindi-2 C. English-3 D. Nepali-4 E. Urdu-5 F. Manipuri-6 G. Khasi-7 H. Telegu-8 I. Others (specify)	
Do you think that moving from your place of birth or your home improved in Type of work?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
Do you think that moving from your place of birth or your home improved in Your income?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
What was the Skill level of migrant respondent before migration?	A. Skilled-1 B. Semi-skilled-2 C. Unskilled-3 D. Others-4	
What was Skill level of migrant respondents after migration?	A. Skilled-1 B. Semi-skilled-2 C. Unskilled-3 D. Others-4	
Do you think that moving from your place of birth or your home improved in access to housing?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
What was /were the main difficulty/difficulties you have faced after you leaving your place of birth?	A. Shelter (house)-1 B. Food and related consumer items-2 C. Inability to obtain social services and other amenities-3 D. Inability to obtain job-4 E. Cultural difference-5 F. Faced no difficulties-6 G. Other (specify)-7	

What is/are the main problem(s) you are facing now? (You can select more than one)	A. Housing-1 B. Employment-2 C. Inadequate supply of consumer goods-3 D. Inadequate social services and amenities-4 E. Other (specify)-5	
In these difficulties do you want to change your working place or place of destination?	A. Yes-1 B. No-2	
If 'Yes', then Where do you want to move?	A. Another destination-1 B. Birth place or place of origin-2 C. Same place-3	

E. NREGS/MGNREGS RELATED QUESTIONS:

Q.1. Do you know about NREGS/MGNREGS?

Ans: Yes/No

Q.2. Status of MGNREGS

Ans: MGNREGS/NON-MGNREGS

Q.3. Do you have Job card ?

Ans: Yes/No

Q.4.Total number of job card holder in your family?

Ans:

Q.5. Have you receive any work under MGNREGS?

Ans: Yes/No

Q.6. Total number of days work received under the last financial year (out of 100 days)

Ans:

Q.7. How many times you have received work under MGNREGS? (frequency of work)

Ans:

Q.8.Wages (Rs) received under this scheme?

Ans:

Q.9. Working hours/day in MGNREGA (Hours)

Ans:

Q.10. Mode of payment of scheme?

Ans: Bank account/Post Office/Yet to be receive

Q.11.Types and nature of work in your villages?

Ans:

Q.12. Working distance from house (Km)

Ans:

Q.13. Satisfaction on number job cards (Statement: “I have needed more job cards”)

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.14. Satisfaction of working days (Statement: “I have needed more working days”)

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.15. Satisfaction for frequency of work (Statement: “I am satisfied with the frequency of work”)

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.16. Satisfaction of Wages of MGNREGS (Statement: I think with the wages of MGNREGS should be increase)

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.17. Satisfaction of Working distance (Statement: “I am satisfied with working distance from home”)

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.18. If, you are migrated from the origin, in the time of MGNREGA work are you return to your home?

Ans; Yes/No

Q.19. Any Comments or Suggestions:

Thank you for your kind collaboration for this investigation,

APPENDIX-II.A

Selection of sample Village and Number of Census Household in Koch Bihar district

Name of the Block	Name of the Village	Total Number of Census Household
Haldibari	Dakshin Pran Majumdaer	101
	Paschim Fate Mamud	492
	Chhoto Haldibari	638

	Bajejama Khasbas	135
Mekhliganj	Madhya Hudumdanga	1590
	Dakshin Hemkumari	115
	Andaran Kuchlibari	200
	Bhotbari	270
	Uttar Upanchauki Kuchlibari	138
	Kuchlibari	128
	Bara Kuchlibari	161
	Dhulia Khalisa	128
	Uttar Boknabandha	156
	Jamaldaha	524
Mathabhanga-I	Jore Simuli	1115
	Gopalpur	109
	Uchal Pukhari	149
	Jorpatki	1281
	Tekonia	226
Mathabhanga-II	Khalaigaon	295
	Phulbari	3122
	Dauguri	1227
	Sildanga	524
Koch Bihar-I	Paschim Moamari	1340
	Bhogdabari Kesharbari	723
	Paschim Haribhanga	429
	Chandamari	1781
	Shalbari	623
	Kursamari	109
	Chhota Nalangibari	488
	Jiranpur	732
Koch Bihar-II	Salmara	395
	Marichbari	3080
	Hatiduba	566
	Basantapur	287
	Madhupur	324
	Karisul	350
Tufanganj-I	Bilsi	573
	Deocharai	1988
	Shikarpur	567
	Chamta	1973
	Balabhut	2293
Tufanganj-II	Chengtimari	189
	Rasikbil	994
	Barakodali	1221

	Bhareya	635
Dinhata-I	Chhto Naldhondra	385
	Alokhari	975
	Petla	1276
	Putimari	920
	Ghugumari	162
Dinhata-II	Saulmari	872
	Sahebganj	1514
	Khattimari	616
	Mirer Kuthi	342
	Silduar	477
	Bara Bagla	214
	Jatigara	395
	Chamta	2251
Sitalkuchi	Sitalkuchi	8607
	Mahismuri	1238
	Golenaohati	2315
	Sarbbeshwar Jayduar	800
	Gadopota	569
Total number of Household		58412

Source: Primary Census Abstract (PCA), Koch Bihar, 2011.

APPENDIX-II.B
Block-Wise Selection of Sample Households

Block	Household status		Total
	Non-migrant	Migrant	
Dinhata-I	8	16	24
Dinhata-II	0	24	24
Haldibari	0	10	10
Koch Bihar-I	10	32	42
Koch Bihar-II	20	14	34
Mathabhanga-I	4	16	20
Mathabhanga-II	6	28	34
Mekhliganj	6	18	24
Sitai	16	8	24
Sitalkuchi	38	52	90
Tufanganj-I	12	38	50
Tufanganj-II	6	16	22
Total	126	272	398

Source: Field Survey, 2017-2018

APPENDIX-II.C

Population Density of India, West Bengal and Koch Bihar District

Year	India	West Bengal	Koch Bihar
1901	972	945	881
1911	964	925	873
1921	955	905	877
1931	950	890	886
1941	945	852	879
1951	946	865	855
1961	941	878	890
1971	930	891	916
1981	934	911	935
1991	926	917	935
2001	933	934	948
2011	943	950	942

Source: Different Census of India

APPENDIX-III.A

District-Wise Male and Female Population, 2011

District	Total Population		
	Persons	Males	Females
Darjeeling	1846823	937259	909564
Jalpaiguri	3872846	1983064	1889782
Koch Bihar	2819086	1451542	1367544
Uttar Dinajpur	3007134	1551066	1456068
Dakshin Dinajpur	1676276	857199	819077
Maldah	3988845	2051541	1937304
Murshidabad	7103807	3627564	3476243
Birbhum	3502404	1790920	1711484
Bardhaman	7717563	3966889	3750674
Nadia	5167600	2653768	2513832
North 24-Parganas	10009781	5119389	4890392
Hugli	5519145	2814653	2704492
Bankura	3596674	1838095	1758579
Puruliya	2930115	1496996	1433119
Haora	4850029	2500819	2349210
Kolkata	4496694	2356766	2139928
South 24-parganas	8161961	4173778	3988183
Paschim Medinipur	5913457	3007885	2905572
Purba Medinipur	5095875	2629834	2466041
West Bengal	86779421	44452261	42327160

Source: Census of India, 2011

APPENDIX-III.B

District-Wise Male and Female Distribution of Out-Migration, 2011

District	Total		
	Persons	Males	Females
Darjeeling	88208	31756	56452
Jalpaiguri	147607	40184	107423
Koch Bihar	173467	58257	115210
Uttar Dinajpur	82589	19769	62820
Dakshin Dinajpur	88223	22063	66160
Maldah	126927	40848	86079
Murshidabad	337162	103598	233564
Birbhum	240468	58127	182341
Barddhaman	570872	139813	431059
Nadia	4,84,880	1,51,194	3,33,686
North 24-Parganas	365399	96843	268556
Hugli	448505	100146	348359
Bankura	308937	75363	233574
Puruliya	113202	28695	84507
Haora	312603	86038	226565
Kolkata	1238975	561410	677565
South 24-parganas	300977	99751	201226
Paschim Medinipur	335561	87374	248187
Purba Medinipur	185045	51734	133311

Source: Census of India, 2011

APPENDIX-III.C

District-Wise Distribution of Rural and Urban Out-Migration, 2011

District	Rural			Urban		
	Persons	Males	Females	Persons	Males	Females
Darjeeling	27566	6412	21154	60642	25344	35298
Jalpaiguri	84365	16061	68304	63242	24123	39119
Koch Bihar	84883	20217	64666	88584	38040	50544
Uttar Dinajpur	52520	8183	44337	30069	11586	18483
Dakshin Dinajpur	52479	7409	45070	35744	14654	21090
Maldah	76471	20469	56002	50456	20379	30077
Murshidabad	204308	43625	160683	132854	59973	72881
Birbhum	141891	22146	119745	98577	35981	62596
Barddhaman	331528	52800	278728	239344	87013	152331
Nadia	2,18,477	47,036	1,71,441	2,66,403	1,04,158	1,62,245
North 24-Parganas	168368	30771	137597	197031	66072	130959
Hugli	240894	35960	204934	207611	64186	143425
Bankura	176070	21540	154530	132867	53823	79044
Puruliya	62485	9237	53248	50717	19458	31259
Haora	122548	18926	103622	190055	67112	122943
Kolkata	154488	57574	96914	1084487	503836	580651

South 24-parganas	102292	17892	84400	198685	81859	116826
Paschim Medinipur	194558	22004	172554	141003	65370	75633
Purba Medinipur	118438	19031	99407	66607	32703	33904

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.D

District-Wise Male and Female Distribution of In-Migration, 2011

District	Total		
	Persons	Males	Females
Darjiling	118300	48160	70140
Jalpaiguri	248864	88216	160648
Koch Bihar	87110	16840	70270
Uttar Dinajpur	127201	38322	88879
Dakshin Dinajpur	70943	14265	56678
Maldah	89491	19848	69643
Murshidabad	229507	44248	185259
Birbhum	205845	42424	163421
Barddhaman	667558	194432	473126
Nadia	366282	98476	267806
North Twenty Four Parganas	1369398	579848	789550
Hugli	627460	191912	435548
Bankura	225233	32612	192621
Puruliya	85815	12356	73459
Haora	356324	114327	241997
Kolkata	315571	138066	177505
South Twenty Four Parganas	472772	168660	304112
Paschim Medinipur	268393	43830	224563
Purba Medinipur	190268	34464	155804

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.E

District-Wise Distribution of Rural and Urban In-Migration, 2011

District	Rural			Urban		
	Persons	Males	Females	Persons	Males	Females
Darjiling	45261	15928	29333	73039	32232	40807
Jalpaiguri	106337	26466	79871	142527	61750	80777
Koch Bihar	64442	9824	54618	22668	7016	15652
Uttar Dinajpur	88833	23090	65743	38368	15232	23136
Dakshin Dinajpur	52253	8638	43615	18690	5627	13063
Maldah	59712	8314	51398	29779	11534	18245
Murshidabad	164561	23537	141024	64946	20711	44235
Birbhum	155905	24779	131126	49940	17645	32295
Barddhaman	360607	77320	283287	306951	117112	189839
Nadia	213751	46024	167727	152531	52452	100079
North Twenty Four Parganas	188252	41063	147189	1181146	538785	642361
Hugli	276734	53873	222861	350726	138039	212687
Bankura	197814	25285	172529	27419	7327	20092

Puruliya	61978	6110	55868	23837	6246	17591
Haora	89425	14766	74659	266899	99561	167338
Kolkata	0	0	0	315571	138066	177505
South Twenty Four Parganas	202581	51699	150882	270191	116961	153230
Paschim Medinipur	208878	23880	184998	59515	19950	39565
Purba Medinipur	139407	15164	124243	50861	19300	31561

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.F

SCs and STs Rural Out-Migration to District Total Population in West Bengal, 2011

District	TP	SC			ST		
		TOM	MOM	FOM	TOM	MOM	FOM
Darjiling	1846823	7974	1541	6433	4239	972	3267
Jalpaiguri	3872846	41595	7042	34553	7152	2064	5088
Koch Bihar	2819086	46164	10567	35597	2167	397	1770
Uttar Dinajpur	3007134	20134	3143	16991	5191	715	4476
Dakshin Dinajpur	1676276	19101	2255	16846	7202	1041	6161
Maldah	3988845	17770	3697	14073	6715	1347	5368
Murshidabad	7103807	47519	9183	38336	4880	1050	3830
Birbhum	3502404	40366	6015	34351	5404	994	4410
Bardhaman	7717563	97414	14110	83304	20285	2697	17588
Nadia	5167600	71014	16361	54653	7974	1298	6676
North Twenty Four Parganas	10009781	63215	12727	50488	9006	1129	7877
Hugli	5519145	73410	9890	63520	15396	1830	13566
Bankura	3596674	46175	5719	40456	23311	2931	20380
Puruliya	2930115	13025	1984	11041	16130	2853	13277
Haora	4850029	30378	3805	26573	1013	189	824
Kolkata	4496694	35893	12153	23740	1184	372	812
South Twenty Four Parganas	8161961	33505	5463	28042	9420	1404	8016
Paschim Medinipur	5913457	40236	3847	36389	14517	2117	12400
Purba Medinipur	5095875	20941	2580	18361	3891	424	3467

TROM^a-Total Rural Out-Migration, MROM^b-Male Rural Out-Migration, FROM^c-Female Rural Out-Migration

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.G

District-Wise Distribution of Rural SC Population and SC Rural Out-Migration in West Bengal, 2011

District	SC Population			SC Out-Migration		
	TRP	RM	RF	TROM	MROM	FROM
Darjiling	224822	114866	109956	7974	1541	6433
Jalpaiguri	1159391	597567	561824	41595	7042	34553
Koch Bihar	1350657	696254	654403	46164	10567	35597
Uttar Dinajpur	741154	383329	357825	20134	3143	16991
Dakshin Dinajpur	440182	226420	213762	19101	2255	16846

Maldah	767492	396637	370855	17770	3697	14073
Murshidabad	727721	373388	354333	47519	9183	38336
Birbhum	934054	478901	455153	40366	6015	34351
Barddhaman	1524133	776238	747895	97414	14110	83304
Nadia	1141341	590538	550803	71014	16361	54653
North Twenty Four Parganas	1252699	646150	606549	63215	12727	50488
Hugli	1053739	532867	520872	73410	9890	63520
Bankura	1105653	559234	546419	46175	5719	40456
Puruliya	490517	251410	239107	13025	1984	11041
Haora	407815	207531	200284	30378	3805	26573
South Twenty Four Parganas	2062297	1061324	1000973	33505	5463	28042
Paschim Medinipur	1034177	523162	511015	40236	3847	36389
Purba Medinipur	677263	348478	328785	20941	2580	18361

TROM^a-Total Rural Out-Migration, MROM^b-Male Rural Out-Migration , FROM^c-Female Rural Out-Migration

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.H

District-Wise Distribution of Rural ST Population and ST Rural Out-Migration in West Bengal, 2011

District	ST Population			ST Out-Migration		
	TRP	RM	RF	TROM	MROM	FROM
Darjiling	319069	158918	160151	4239	972	3267
Jalpaiguri	690312	345035	345277	7152	2064	5088
Koch Bihar	16872	8735	8137	2167	397	1770
Uttar Dinajpur	158377	79631	78746	5191	715	4476
Dakshin Dinajpur	267913	134311	133602	7202	1041	6161
Maldah	307625	154156	153469	6715	1347	5368
Murshidabad	86004	43527	42477	4880	1050	3830
Birbhum	232666	115022	117644	5404	994	4410
Barddhaman	379262	188349	190913	20285	2697	17588
Nadia	120300	60954	59346	7974	1298	6676
North Twenty Four Parganas	196920	99676	97244	9006	1129	7877
Hugli	211620	104347	107273	15396	1830	13566
Bankura	365380	181734	183646	23311	2931	20380
Puruliya	531822	267382	264440	16130	2853	13277
Haora	4025	2075	1950	1013	189	824
South Twenty Four Parganas	89889	45554	44335	9420	1404	8016
Paschim Medinipur	853031	426541	426490	14517	2117	12400
Purba Medinipur	24028	12110	11918	3891	424	3467

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.I

Percentage of Out-Migration in State/Union Territories in India

State/U.T.	Rural Out-Migration		Urban Out-Migration	
	Male %	Female %	Male	Female
Andhra Pradesh	9.9	17.3	5.9	9.4
Arunachal Pradesh	5.1	2.1	3.9	1.1
Assam	4.3	4.9	3.8	4.5
Bihar	10.8	6.5	6.2	4.8
Chhattisgarh	4.4	9.3	3.7	10.6
Delhi	0.1	7	0.5	4.4
Goa	4.5	3.3	4.5	3.7
Gujarat	5.6	20.5	3.7	11.7
Haryana	5.1	33.8	3.3	23.6
Himachal Pradesh	20.8	32.4	8.8	24.5
Jammu & Kashmir	5.6	11.5	3	7.9
Jharkhand	5.6	2.9	5.8	3.4
Karnataka	8	15.7	3.9	6
Kerala	23.3	30.2	21.5	24.7
Madhya Pradesh	3.9	14.6	3	9.5
Maharashtra	9.3	24.4	4.2	12.4
Manipur	5.1	2.1	3.6	2.3
Meghalaya	3.5	2	2.3	1.4
Mizoram	4.3	3.8	5.8	4.3
Nagaland	6.3	8.3	5.5	4.9
Orissa	11.2	10.7	7.3	9.4
Punjab	6.2	17	3.4	10.9
Rajasthan	10.4	24	6.2	19.9
Sikkim	7	9.3	13.8	13.3
Tamil Nadu	10.5	11.1	7.3	5.8
Tripura	3.5	3.3	4.7	3
Uttarakhand	16.6	20.7	6.3	10.6
Uttar Pradesh	11.6	19.1	5	12.6
West Bengal	6.9	17.9	4.2	15.4
A & N Islands	12.8	17.9	6.1	7.8
Chandigarh	0.2	0.3	3.4	6.2
Dadra & Nagar Haveli	1.7	5.4	1.4	3.1
Daman & Diu	2.8	5.2	6.1	9.7
Lakshadweep	14.4	9.5	21.2	8.7
Puducherry	6.9	2	8.6	2.8

Source: NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.J
Distribution Rural Out-Migration Flow in India

Rural Male+Female	Migration Flow (%)			
	Name of State/UT/all	Within the same district	Another district	Within the same state
Andhra Pradesh	53.8	32	85.8	9.8
Arunachal Pradesh	60.5	23.7	84.3	14.4
Assam	44.4	40	84.5	15.5
Bihar	21.1	14.8	35.9	62.3
Chhattisgarh	53.9	27.5	81.4	17.9
Delhi	30.8	1.7	32.5	66.7
Goa	53.6	6.3	59.9	23.2
Gujarat	58.1	36.1	94.2	4.4
Haryana	30.2	39.5	69.8	29.1
Himachal Pradesh	53.5	17.3	70.8	28.4
Jammu & Kashmir	62.9	18.6	81.5	17.9
Jharkhand	25.9	19.7	45.6	53.5
Karnataka	51.6	34.8	86.3	12.8
Kerala	47	17.8	64.8	14.8
Madhya Pradesh	57.9	31.3	89.2	10.5
Maharashtra	51.8	42	93.8	5.7
Manipur	25.9	40.1	66	33.8
Meghalaya	40.1	40.5	80.6	17.9
Mizoram	46.5	39.8	86.3	13.7
Nagaland	46.1	44.2	90.4	9.5
Orissa	40.9	23.3	64.3	35.1
Punjab	43.6	26.7	70.3	12.3
Rajasthan	49.5	25.2	74.7	23.4
Sikkim	44.9	33.4	78.3	19.7
Tamil Nadu	37.5	42	79.5	12.3
Tripura	51.2	24.5	75.7	20.9
Uttarakhand	38.6	17.1	55.8	43.6
Uttar Pradesh	36.5	25.7	62.3	35.9
West Bengal	59.5	22.5	82	17.2
Andaman & Nicobar Islands	55.5	27.6	83	16.8
Chandigarh	0	0	0	85.8
Dadra & Nagar Haveli	29.9	56.4	86.3	13.1
Daman & Diu	20.6	1	21.6	47.3
Lakshadweep	76.8	0	76.8	23.2
Puducherry	48.9	0.6	49.5	40.6
India	45.2	28.2	73.4	23.3

Source: NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.K
Percentage Distribution of Causes of Rural Male out-migration in India

State/U.T./ all-India	Employment-related reasons	Studies	Forced migration	Marriage	Movement of parent/ earning member	Others	Total
Andhra Pradesh	62.1	23.9	0.1	1.2	9.4	3.1	100
Arunachal Pradesh	74.5	17.7	0	1.5	0.6	2.7	100
Assam	94.9	1.4	0.1	0.8	2.5	0.3	100
Bihar	88.1	2.5	0	0.6	5.8	2.2	100
Chhattisgarh	71.8	8	0	1.1	15.8	2.6	100
Delhi	100	0	0	0	0	0	100
Goa	83.2	12.2	0	0	2.5	0	100
Gujarat	73.3	10.3	0.1	2.1	12.8	1.1	100
Haryana	70.4	6.5	0	3.8	16.5	2.6	100
Himachal Pradesh	77.8	13	0	0.6	3.9	3.2	100
Jammu & Kashmir	90.5	0.6	0.4	0.7	4	3.5	100
Jharkhand	82.6	8.9	0	0	6.4	1.1	100
Karnataka	76.3	13.2	1.7	0.5	4.9	2.8	100
Kerala	73.5	5.3	0.2	2.5	6.1	12.4	100
Madhya Pradesh	70.2	12.9	0.1	2.1	10	1.8	100
Maharashtra	73.1	11.4	0.3	1.3	10.4	2.2	100
Manipur	77.1	18	0.1	0.4	1.2	2.8	100
Meghalaya	51.6	35	0.4	10.3	0	1.7	100
Mizoram	79.5	17.4	0	2.7	0	0.4	100
Nagaland	74.1	23.7	0	1.2	0	1.1	100
Orissa	87.2	4.5	0	0.6	5.8	1.5	100
Punjab	83.1	5.9	0	2	4.8	3.9	100
Rajasthan	80.2	8.1	0.1	0.6	8.4	2.1	100
Sikkim	61.1	34.6	0	1.1	0.9	2.2	100
Tamil Nadu	84.4	9.3	0	1.8	3.4	1.1	100
Tripura	90.2	2.7	0.1	2.5	2.1	1.8	100
Uttarakhand	84.4	5	0	0.6	8.4	1.1	100
Uttar Pradesh	82.5	4.4	0	0.6	9.7	1.7	100
West Bengal	89.4	3.2	0	1.6	1.8	3.9	100
A & N Islands	46.3	19.6	0	1.4	13.3	18.2	100
Chandigarh	100	0	0	0	0	0	100
Dadra & Nagar Haveli	75.8	0	0	0	24.1	0	100
Daman & Diu	79.1	15.9	0	0	5	0	100
Lakshadweep	68.4	10.9	0	0	8.6	12.1	100
Puducherry	50.9	20	6.6	22.4	0	0	100
all-India	79.9	7.8	0.1	1.1	7.6	3	100

Source: NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.L
Percentage of Causes of Rural Female out-migration in India

State/U.T./ all-India	Employment-related reasons	Studies	Forced migration	Marriage	Movement of parent/ earning member	Others	Total
Andhra Pradesh	2.6	7.4	0	76.8	12.1	0.9	100
Arunachal Pradesh	26.2	32.7	0	33.1	4.1	3.9	100
Assam	2.1	0.4	0.1	87.1	9.3	0	100
Bihar	1.3	1.1	0.1	78.4	18.5	0.4	100
Chhattisgarh	11	1.1	0	70.7	14.1	2.1	100
Delhi	0	0	0	100	0	0	100
Goa	17.4	2.4	0	67.9	9.7	0	100
Gujarat	1.1	1.7	0.4	86.3	9.4	1	100
Haryana	0.9	1.3	0.2	92.2	4.3	0.9	100
Himachal Pradesh	1.8	3.6	0.3	84.3	8.5	1.1	100
Jammu & Kashmir	0	0.1	0	95.4	3.1	1.3	100
Jharkhand	13.7	12.1	0	52.5	19.1	2.2	100
Karnataka	5.2	2.6	0.6	84.6	4.9	2	100
Kerala	4.5	3	0.3	77.1	9.4	5.7	100
Madhya Pradesh	2	1.9	0	86.6	8.1	0.7	100
Maharashtra	3.7	2.2	0	84.7	8.3	1	100
Manipur	27	27.4	0	27.1	14.1	4.3	100
Meghalaya	39.2	54.2	0.1	5.6	0.9	0	100
Mizoram	22.4	23.3	0.3	52.3	1	0.7	100
Nagaland	10.6	5.2	0.1	82.4	1	0.7	100
Orissa	2.2	4.2	0	78.5	12.9	1.8	100
Punjab	1.6	1.1	0.8	91.3	3.9	1.2	100
Rajasthan	1.1	1.3	0	87.8	8.8	0.9	100
Sikkim	5.2	21.2	0	68.2	2.5	2.9	100
Tamil Nadu	5	3.9	0	83	7	1	100
Tripura	5.4	0.5	0	83.8	6.4	3.5	100
Uttarakhand	1.6	3.4	0	79.5	14.5	0.8	100
Uttar Pradesh	0.9	1	0.1	83.5	13.1	1.1	100
West Bengal	1.3	0.2	0	94.7	2.4	0.9	100
A & N Islands	6.8	24.8	0	39.6	25.1	3.7	100
Chandigarh	15.7	0	0	84.3	0	0	100
Dadra & Nagar Haveli	0	0	0	50.7	49.3	0	100
Daman & Diu	0	0	0	88.8	11.2	0	100
Lakshadweep	30.1	9.1	0	7.3	34.5	19	100
Puducherry	8.4	0	0	91.7	0	0	100
all-India	2.3	2.2	0.1	84.3	9.5	1.2	100

Source: NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.M

Calculation of Z-Score showing Balance of Rural Male Out-Migration of West Bengal

District	Males(X)	$X-\bar{X}$	$(X-\bar{X})^2$	$Z=(X-\bar{X})/S.D$
Darjeeling	-0.4	-0.63	0.39	-0.53
Jalpaiguri	-0.61	-0.84	0.7	-0.71
Koch Bihar	2.06	1.83	3.36	1.55
Uttar Dinajpur	-0.35	-0.58	0.33	-0.49
Dakshin Dinajpur	-0.86	-1.09	1.18	-0.92
Maldah	2.46	2.23	4.98	1.89
Murshidabad	1.85	1.62	2.63	1.37
Birbhum	-0.89	-1.12	1.25	-0.95
Barddhaman	-0.68	-0.91	0.83	-0.77
Nadia	1.02	0.79	0.63	0.67
North 24-Parganas	-0.75	-0.98	0.96	-0.83
Hugli	-0.67	-0.9	0.81	-0.76
Bankura	-0.85	-1.08	1.16	-0.91
Puruliya	1.51	1.28	1.64	1.08
Haora	1.28	1.05	1.11	0.89
South 24-parganas	-0.35	-0.58	0.33	-0.49
Paschim Medinipur	-0.92	-1.15	1.32	-0.97
Purba Medinipur	1.26	1.03	1.06	0.87

Source: Census of India, 2011, Migration D-Series

Data have been computed by the researcher.

Arithmetic Mean (\bar{X}) = $\sum X/N$ (Where, X=Individual Value, N=Number of Observation)

$$=4.11/18$$

$$=0.23$$

Standard Deviation (S.D) = $\sqrt{(X-\bar{X})^2/N}$

$$= \frac{\sqrt{24.68}}{18}$$

$$=1.18$$

Calculation of Z-Score showing Balance of Rural Female Out-Migration of West Bengal

District	Females(X)	$X-\bar{X}$	$(X-\bar{X})^2$	$Z=(X-\bar{X})/S.D$
Darjeeling	-0.72	-0.54	0.29	-0.79
Jalpaiguri	-0.86	-0.68	0.46	-0.99
Koch Bihar	1.18	1.36	1.86	2.00
Uttar Dinajpur	-0.67	-0.49	0.24	-0.72
Dakshin Dinajpur	1.03	1.21	1.47	1.78
Maldah	1.09	1.27	1.62	1.87
Murshidabad	1.14	1.32	1.75	1.94
Birbhum	-0.91	-0.73	0.53	-1.07
Bardhaman	-0.98	-0.80	0.64	-1.17
Nadia	1.02	1.20	1.45	1.76
North 24-Parganas	-0.93	-0.75	0.56	-1.10
Hugli	-0.92	-0.74	0.54	-1.08
Bankura	-0.9	-0.72	0.52	-1.05
Puruliya	-0.95	-0.77	0.59	-1.13
Haora	1.39	1.57	2.47	2.31
South 24-parganas	-0.56	-0.38	0.14	-0.55
Paschim Medinipur	-0.93	-0.75	0.56	-1.10
Purba Medinipur	-0.8	-0.62	0.38	-0.91

Source: Census of India, 2011, Migration DSeries

Data have been computed by the researcher.

Arithmetic Mean (\bar{X}) = $\sum X/N$ (Where, X=Individual Value, N=Number of Observation)

$$=-3.28/18 = -0.18$$

$$\text{Standard Deviation (S.D)} = \sqrt{(X-\bar{X})^2 / N}$$

$$\frac{\sqrt{16.05}}{18}$$

$$=0.68$$

APPENDIX-III.N

Calculation of Location Quotient (L.Q) for Male Rural Out-Migration in Koch Bihar District

District	Total(Xi)	Male(Yi)	Ratio of Male to Total Migrants(Yi/Xi)	$\frac{\sum Y_i}{\sum X_i}$	$L.Q = \frac{(Y_i/X_i)}{(\sum Y_i / \sum X_i)}$	
Dinhata-I	16	10	0.63	0.88	0.71	
Dinhata-II	24	22	0.92		1.05	
Haldibari	10	8	0.80		0.91	
Koch Bihar-I	32	30	0.94		1.07	
Koch Bihar-II	14	14	1.00		1.14	
Mathabhanga-I	16	14	0.88		1.00	
Mathabhanga-II	28	28	1.00		1.14	
Mekhliganj	18	14	0.78		0.89	
Sitai	8	8	1.00		1.14	
Sitalkuchi	52	46	0.88		1.01	
Tufanganj-I	38	34	0.89		1.02	
Tufanganj-II	16	10	0.63		0.71	
$\sum X_i = 272$ $\sum Y_i = 238$						

Source: Field Survey, 2017-2018.

Data have been computed by the researcher.

Calculation of Location Quotient (L.Q) for Female Rural Out-Migration in Koch Bihar District

District	Total(Xi)	Female(Yi)	Ratio of Female to Total Migrants(Yi/Xi)	$\frac{\sum Y_i}{\sum X_i}$	$L.Q = \frac{(Y_i/X_i)}{(\sum Y_i / \sum X_i)}$	
Dinhata-I	16	6	0.38	0.13	3.00	
Dinhata-II	24	2	0.08		0.67	
Haldibari	10	2	0.20		1.60	
Koch Bihar-I	32	2	0.06		0.50	
Koch Bihar-II	14	0	0.00		0.00	
Mathabhanga-I	16	2	0.13		1.00	
Mathabhanga-II	28	0	0.00		0.00	
Mekhliganj	18	4	0.22		1.78	
Sitai	8	0	0.00		0.00	
Sitalkuchi	52	6	0.12		0.92	
Tufanganj-I	38	4	0.11		0.84	
Tufanganj-II	16	6	0.38		3.00	
$\sum X_i = 272$ $\sum Y_i = 34$						

Source: Field Survey, 2017-2018.

Data have been computed by the researcher.

APPENDIX-III.O

Block-Wise Calculation of Index of Satisfaction of Rural Out-Migration in Koch Bihar District

Satisfaction of Sanitation facility at the Destination

Block	Respondents Status		Total (N)	$IS = \frac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	12	12	24	0.00
Haldibari	10	0	10	1.00
Koch Bihar-I	2	30	32	-0.88
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	10	6	16	0.25
Mathabhanga-II	2	26	28	-0.86
Mekhliganj	2	16	18	-0.78
Sitai	8	0	8	1.00
Sitalkuchi	6	46	52	-0.77
Tufanganj-I	24	14	38	0.26
Tufanganj-II	2	14	16	-0.75
Total	104	168	272	-0.24

Source: Field Survey, 2017-2018, Data have been computed by the researcher.

Satisfaction of Drinking water facility at the Destination

Block	Respondents Status		Total (N)	$IS = \frac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	6	10	16	-0.25
Dinhata-II	6	18	24	-0.50
Haldibari	4	6	10	-0.20
Koch Bihar-I	4	28	32	-0.75
Koch Bihar-II	0	14	14	-1.00
Mathabhanga-I	4	12	16	-0.50
Mathabhanga-II	0	28	28	-1.00
Mekhliganj	12	6	18	0.33
Sitai	4	4	8	0.00
Sitalkuchi	0	52	52	-1.00
Tufanganj-I	10	28	38	-0.47
Tufanganj-II	6	10	16	-0.25
Total	56	216	272	-0.59

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction of Types of Job at the Destination

Block	Respondents Status		Total (N)	$IS = \frac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	6	18	24	-0.50
Haldibari	10	0	10	1.00
Koch Bihar-I	4	28	32	-0.75
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	8	8	16	0.00
Mathabhanga-II	12	16	28	-0.14
Mekhliganj	10	8	18	0.11
Sitai	8	0	8	1.00
Sitalkuchi	42	10	52	0.62
Tufanganj-I	14	24	38	-0.26
Tufanganj-II	14	2	16	0.75
Total	154	118	272	0.13

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction on Monthly income at the Destination

Block	Respondents Status		Total (N)	$IS = \frac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	24	0	24	1.00
Haldibari	8	2	10	0.60
Koch Bihar-I	8	24	32	-0.50
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	14	2	16	0.75
Mathabhanga-II	12	16	28	-0.14
Mekhliganj	18	0	18	1.00
Sitai	6	2	8	0.50
Sitalkuchi	42	10	52	0.62
Tufanganj-I	32	6	38	0.68
Tufanganj-II	8	8	16	0.00
Total	198	74	272	0.46

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction on Overall Work of MGNREGS in the District

Block	Respondents Status		Total	$IS = \frac{(fs - fd)}{N}$
	Satisfied (<i>fs</i>)	Dissatisfied (<i>fd</i>)		
Dinhata-I	0	16	16	-1.00
Dinhata-II	0	24	24	-1.00
Haldibari	0	10	10	-1.00
Koch Bihar-I	2	30	32	-0.88
Koch Bihar-II	9	5	14	0.29
Mathabhanga-I	4	12	16	-0.50
Mathabhanga-II	2	26	28	-0.86
Mekhliganj	0	18	18	-1.00
Sitai	4	4	8	0.00
Sitalkuchi	30	22	52	0.15
Tufanganj-I	20	18	38	0.05
Tufanganj-II	8	8	16	0.00
Total	79	193	272	-0.42

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

APPENDIX-IV

Abbreviations

ANC	Antenatal Care
ASMR	Age Specific Migration Rate
BAD	Border Adjacent District
BM	Balance of Migration
BMI	Body Mass Index
BPL	Below Poverty Line
CBR	Crude Birth Rate
CD Block	Community Development Block
CTs	Census Towns
FAO	Food and Agriculture Organization
FY	Financial Year
GIS	Geographic Information System
GoI	Government of India
HDI	Human Development Index
HH	Household
HHI	Household Industry
IAY	Indira Awas Yojana
IDP	Internally Displaced Persons
ILO	International labour Organisation
IRS	Indian Remote Sensing Satellite
IS	Index of Satisfaction
ISRO	Indian Space Research Organisation
LULC	Land Use and Land Cover
MART	Maharashtra State Agriculture And Rural Tourism
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MI	Migration Index
MSL	Mean Sea Level
NCRL	National Commission on Rural Labour
NFHS	National Family Health Survey
NGOs	Non-Governmental Organisations
NRLM	National Rural Livelihood Mission
NSSO	National Sample Survey Organisation
OBC	Other Backward Class
OECD	The Organisation of Economic Cooperation and Development
OLI	Operational Land Imager
OMR	Out-Migration Rate
OR	Odds Ratio
PCA	Primary Census Abstract

POB	Place of Birth
POLR	Place of Last Residence
PURA	Providing Urban Facilities in Rural Areas
S.D.	Sub Division
SC	Scheduled Caste
SGSY	Swarna Jayanti Gram Swarojgar Yojana
SHGs	Self Help Groups
SoRS	Schedule of Rates
ST	Scheduled Tribe
STs	Statutory Towns
TFR	Total Fertility Rate
TOM	Total Out-Migration
U.A.E.	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNDESA	United Nations Development of Economic and Social affairs
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
USA	Unite States of America
USDA	United States Department of Agriculture
UT	Union Territories

APPENDIX-V

List of the Publications

- Barman, B., & Roy, R. (2019). Nature and Characteristics of Rural Labour Out-Migration: A Case Study of Sitalkuchi Block in Koch Bihar District, West Bengal. *Thematics Journal of Geography*, 8(4), 725-737.
- Barman, B., & Roy, R. (2020). Assessment of Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS) on Rural Out-migration in Koch Bihar District, West Bengal: A Multivariate Analysis. Socio-Economic Development and Environmental Sustainability: The Indian Perspective edited by R. Sarkar, *Namya Press*, 215-235, ISBN 978-93-90124-61-9.