

Annex 1 Statistical analysis

Values, Indexed of Sub-component and Average of components for the assessment of Livelihood Vulnerability Index (LVI) of flood prone settlement along the Bagmati Corridor of Rautahat and Sarlahi Districts, Nepal

Major components	Sub-components	Up-stream			Mid-stream			Down-stream		
		Value	Indexed	Average	Value	Indexed	Average	Value	Indexed	Average
Socio-demographic Profile	Dependency Ratio(<15 years and >65 years)	1.836	0.115	0.157	4.246	0.265	0.354	4.596	0.287	0.359
	Percent of female-headed households	10.4	0.104		21.1	0.211		19.3	0.193	
	Percent of households where head of household has not attended school	32.8	0.328		96.5	0.965		87.7	0.877	
	Percent of households with orphans	3	0.03		7	0.07		3.5	0.035	
	Percentage of HHs where member had no formal or informal skills	26.9	0.269		45.6	0.456		59.6	0.596	
	Average Family size	7.014	0.24		9.67	0.386		10.14	0.406	
	Infant Mortality Rate	1.5	0.015		12.3	0.123		12.3	0.123	
Livelihood	Percent of households with family member not working in a different community	68.7	0.687	0.358	70.2	0.702	0.493	78.9	0.789	0.483
	Percent of households dependent solely on agriculture as a source of income	17.9	0.179		29.8	0.298		21.1	0.211	
	Percentage of households without jobs	23.9	0.239		82.5	0.825		54.4	0.544	
	Percentage of households with no training to enhance livelihood	70.1	0.701		78.9	0.789		82.5	0.825	
	Percentage of households changed their sowing and cropping schedule	29.9	0.299		24.6	0.246		29.8	0.298	
	Percentage of households reported loss of livestock	6	0.06		33.3	0.333		43.9	0.439	
	Average Agricultural Livelihood Diversification Index		0.343			0.258			0.274	
Social networks	Average Receive: Give ratio	92	0.92	0.298	81.1	0.811	0.59	83.9	0.839	0.547
	Percent of households that have not gone to their local government for assistance in the past 12 months	32.8	0.328		50.9	0.509		70.2	0.702	

	Percentage of HHs not receiving helps due to flood	17.9	0.179		86	0.86		40.4	0.404	
	Percentage of HHs that have not been member of any organization	6	0.06		73.7	0.737		75.4	0.754	
	Percent of HHs have no communicative devices (TV, radio, mobile etc.) at home	0	0		3.5	0.035		3.5	0.035	
Financial aspects	Average Borrow: Lend Money ratio	72.4	0.724	0.495	59.1	0.591	0.612	67.1	0.671	0.671
	Percent of households who do not have access to financial services to any financial institution	7.5	0.075		54.4	0.544		61.4	0.614	
	Percent of households who do not have any family members working outside the village at relatively developed place	68.7	0.687		70.2	0.702		77.2	0.772	
Physical structure	Percentage of households without solid house	43.3	0.433	0.245	98.2	0.982	0.744	91.4	0.914	0.764
	Percentage of households with house affected by Floods	4.5	0.045		86	0.86		89.7	0.897	
	Percentage of households whose Land is damaged by flood	26.9	0.269		96.5	0.965		100	1	
	Percentage of households without access to critical facilities (Health post and water treatment plant.)	0	0		100	1		86.2	0.862	
	Percentage of households with access to emergency response (police, social community clubs, flood rescue center etc.)	0	0		40.4	0.404		65.5	0.655	
	Percentage of households with no access to road	0	0		0	0		5.2	0.052	
	Percentage of households without property Insurance	97	0.97		100	1		96.5	0.965	
Health	Average time to health facility (in minute)	10.22	0.045	0.196	22.81	0.155	0.325	57.70	0.458	0.464
	Percent of households with family member with chronic illness	28.4	0.284		31.6	0.316		37.9	0.379	
	Percent of households where a family member had to miss work or school in the last 2 weeks due to illness	7.5	0.075		5.3	0.053		34.5	0.345	
	Average Disease		0.054			0.228			0.53	

		Exposure*Prevention Index (Modified)								
	Percent of households without Toilet	0	0		22.8	0.228		41.4	0.414	
	Percentage of households not receiving proper facilities for child delivery and immunization	3	0.03		29.8	0.298		15.5	0.155	
	Percent of households without Health Insurance	88.1	0.881		100	1		96.6	0.966	
Food	Percent of households dependent on family farm for food	13.4	0.134	0.339	29.8	0.298	0.457	19	0.19	0.498
	Average number of months households struggle to find food	1.806	0.15		4.859	0.405		4.844	0.404	
	Average Crop Diversity Index	1.58	0.145		1.351	0.27		1.034	0.259	
	Percent of households that do not save crops	77.6	0.776		86	0.86		1	1	
	Percent of households that do not save seeds	48.8	0.488		45.6	0.456		63.8	0.638	
Water	Percent of households reporting water conflicts	70.1	0.701	0.167	77.2	0.772	0.362	93.1	0.931	0.366
	Percent of households that utilize a natural water source	0	0		0	0		0	0	
	Average time to water source	30	0		33.68	0.033		30	0	
	Percent of households without water filter	16.42	0.164		87.71	0.877		87.93	0.879	
	Percent of households that do not have a consistent water supply	0	0		31.6	0.316		19	0.19	
	Inverse of the average number of liters of water stored per household	7.269	0.137		5.719	0.174		5.12	0.195	
Forest	Percentage of households using only Forest-based energy for cooking purpose	94.8	0.948	0.797	87.7	0.877	0.753	73.1	0.731	0.494
	Average time to fetch firewood	6.47	0.647		16.29	0.629		25.68	0.257	
Natural disasters and climate variability	Average number of flood events in the past 6 years	1.268	0.211	0.291	5.807	0.968	0.5	6	1	0.579
	Percent of households that did not receive a warning about the pending natural disasters	17.9	0.179		68.4	0.684		72.4	0.724	
	Percent of households with an injury or death as a result of the most severe	3	0.03		22.8	0.228		55.2	0.552	

natural disaster in the past 6 years							
LVI values	Mean standard deviation of the average maximum temperature by month	1.19	0.53	5.37	0.37	5.37	0.37
	Mean standard deviation of the average minimum temperature by month	5.71	0.57	6.47	0.47	6.47	0.47
	Mean standard deviation of average precipitation by month	23.43	0.23	187.3	0.28	145.7	0.36
		Upper Belt/Up-Stream			Middle Belt/Mid-Stream		Lower Belt/Down-Stream
		0.323		0.506		0.528	

In this study, to assess the LVI of households, data were collected from 3 belts (Up-stream, Mid-stream and Down-Stream) on the basis of 10 components (namely: Socio-demographic Profile, Livelihood, Social Networks, Financial Aspects, Physical Structure, Health, Food, Water, Forest and Natural Disasters & Climate Variability) with 55 sub-components which are presented in above table . The vulnerability indices of the major components ranged from 0.129 to 0.762 as shown in above table. In the following section, vulnerability assessments are analyzed and described in details of major components with all three belts