

List of Contents

S. No.	Headings	Page No.
	Approval Sheet	iii
	Acknowledgement	iv
	Abstract	v
	List of Contents	viii
	List of Acronyms	xvi
	List of Tables	xix
	List of Figures	xxiii
	List of Maps	xxiv
1	Introduction	1
1.1	Introduction	2
1.2	Study Area	6
1.3	Scope of the Study	16
1.4	Justification of the Study	18
1.5	Limitations of the Study	20
1.6	Organization of the Thesis	20
2	Literature Review and Theoretical Frame Work	21
2.1	Introduction	22
2.2	Basic Concepts and Definitions	23
2.2.1	Building Code	23
2.2.2	Centrality	23
2.2.3	Disaster	23
2.2.4	Disaster Management	24
2.2.5	Earthquake	24
2.2.6	Environment	25
2.2.7	Hazard	25
2.2.8	Household	26
2.2.9	Location	26
2.2.10	Public Awareness	26
2.2.11	Public Services and Utilities	26
2.2.12	Red Zone	27
2.2.13	Resettlement	27

2.2.14	Rural Area	29
2.2.15	Site of the Settlement	29
2.2.16	Situation of the Settlement	29
2.2.17	Urban Area	29
2.2.18	Urban Basic Activities	29
2.2.19	Urban Economic Base	30
2.2.20	Urban Non-Basic Activities	30
2.3	Disaster Management in Pakistan	30
2.4	Earthquake – 2005	34
2.5	ERRA’s Urban Development Strategy	39
2.6	Site and Situation	42
2.7	Resettlement	55
2.8	Indices of Human Development, Disaster Risk and Environment	64
2.9	Conclusion	68
3	Research Methodology	70
3.1	Introduction	71
3.2	Research Problem	71
3.3	Purpose	72
3.4	Research Question	72
3.5	Hypothesis	72
3.6	Objectives	72
3.7	Research Methods	73
3.7.1	Primary Data Collection	74
3.7.1.1	Land Use Survey	74
3.7.1.2	Employment Structure Survey	74
3.7.1.3	Field Observations	75
3.7.1.4	First Stage Questionnaire Survey & Focus Group Discussion	75
3.7.1.4	Second Stage Questionnaire Survey & Focus Group Discussion	76
3.7.2	Secondary Data Collection	77
3.7.3	Data Analysis	77
3.7.4	Evolution of Resettlement Tool	78
3.8	Universe of the Study	79
3.9	Conclusion	80

4	Sites of the Old and New Balakot Towns	93
4.1	Introduction	94
4.2	Site of the Old Balakot Town	94
4.2.1	Site Vulnerability to hazards	95
4.2.1.1	Earthquake	96
4.2.1.2	Floods	98
4.2.1.3	Landslides	110
4.2.1.4	Hail Storm, Snowfall and Windstorm	115
4.2.1.5	Drought	115
4.2.1.6	Fire	117
4.2.2	Services	117
4.2.2.1	Shelters	118
4.2.2.2	Education	120
4.2.2.3	Health	121
4.2.2.4	Transportation	121
4.2.2.5	Telecommunication and Postal Service	122
4.2.2.6	Emergency Response Services	122
4.2.2.7	Government Offices	123
4.2.2.8	Civic Infrastructure and Sanitation	123
4.2.2.9	Recreation	123
4.2.3	Civic Utilities	125
4.2.3.1	Water Supply	126
4.2.3.2	Natural Gas	126
4.2.3.3	Electricity	126
4.3	Site of the New Balakot Town	127
4.3.1	Master Plan of the New Balakot Town	128
4.3.2	Utilities and Services	132
4.3.3	Site Vulnerability to Hazards	134
4.4	Comparison of the Sites of Old and New Balakot Towns	135
4.5	Conclusion	135
5	Situation of the Old and New Balakot Towns	137
5.1	Introduction	138
5.2	Situation of the Old Balakot Town	139

5.2.1	Basic Activities	140
5.2.1.1	Commercial Activities	146
5.2.1.2	Administrative Activities	148
5.2.1.3	Political Activities	152
5.2.1.4	Social and Cultural Activities	152
5.2.1.5	Non-Government Organizations (NGOs)	153
5.2.1.6	Manufacturing Activities	154
5.2.1.7	Agriculture Activities	154
5.2.1.8	Surrounding Productive Land	155
5.2.1.9	Centre of the Valley	155
5.2.2	Relative Location	155
5.2.3	Centrality of the Old Balakot Town	158
5.2.4	Non-Basic Activities	165
5.3	Situation of the New Balakot Town	166
5.3.1	Basic Activities	168
5.3.1.1	Administrative Activities	169
5.3.1.2	Political Activities	169
5.3.1.3	Social & Cultural Activities	169
5.3.1.4	Commercial Activities	170
5.3.1.5	Manufacturing Activities	170
5.3.1.6	Surrounding Productive Land	170
5.3.2	Relative Location	170
5.3.3	Centrality of the New Balakot Town	171
5.3.4	Non-Basic Activities	172
5.4	Comparison of the Situation of Old and New Balakot Towns	172
5.5	Conclusion	173
6	Identification and Solutions of the Problems of Resettlement	175
6.1	Introduction	176
6.2	Identification of Problems of Resettlement	177
6.2.1	Perception about Hazards	178
6.2.2	Perception about the Resettlement Process	194
6.2.3	Commercial Activities	195
6.2.4	Shelter/Residence	198

6.2.5	Employment	198
6.2.6	Property Ownership	213
6.2.7	Agriculture Activities	214
6.2.8	Feudal System	215
6.2.9	Administrative Activities	215
6.2.10	Political, Social and Cultural Activities	216
6.2.11	Non-Government Organizations (NGOs)	216
6.2.12	Manufacturing Activities	217
6.2.13	Level of the Civic Services	217
6.2.14	Level of the Civic Utilities	220
6.2.15	Living Standards	222
6.2.16	Government's Policy of the Resettlement	224
6.2.17	Community Awareness	225
6.2.18	Social Setup	225
6.2.19	Religious Institutions	230
6.2.20	Emotional Attachment	231
6.2.21	Valley Entity	232
6.2.22	Distance between the old and new Balakot Towns	233
6.2.23	Relative Location of the Old Balakot Town	233
6.2.24	Relative Location of the New Balakot Town	235
6.2.25	Centrality of the Old Balakot Town	235
6.2.26	Centrality of the New Balakot Town	235
6.3	Solution of the Problems of Resettlement	237
6.3.1	Awareness Programmes	239
6.3.2	Confidence Building Measures	240
6.3.3	Participatory Approach	243
6.3.4	Multi-Sectorial Approach	243
6.3.4.1	Economic	244
6.3.4.2	Social	246
6.3.5	Decreasing the level of Utilities and Services in the Old Balakot Town	247
6.3.6	Increasing the level of Utilities and Services in New Balakot Town	247
6.3.7	Shifting of Administrative Activities	248

6.3.8	Changing and Merging the Political Boundaries	250
6.3.9	Discouraging Commercial Activities in the Old Balakot Town	250
6.3.10	Discouraging Residence in the Old Balakot Town	254
6.3.11	Decreasing the Centrality of the Old Balakot Town	254
6.3.12	Projecting the Centrality of the New Balakot Town	256
6.3.13	New Site of the Tehsil Headquarters	256
6.3.14	Manufacturing Activities in the New Balakot Town	257
6.3.15	Restoration of the Agriculture's Livelihoods in the New Balakot Town	257
6.3.17	Declaring the Old Balakot Area as a National Park	259
6.3.18	Changing the Compensation Strategy	259
6.4	Conclusion	262
7	Evolution and Standardisation of the Resettlement Tool	263
7.1	Introduction	264
7.2	Analysis of the Site of old Balakot Town	265
7.3	Analysis of the Site of new Balakot Town	267
7.4	Comparison of the Sites of old and new Balakot towns	268
7.5	Analysis of the Situation of old Balakot Town	269
7.6	Analysis of the Situation of new Balakot Town	272
7.7	Comparison of the Situations of old and new Balakot towns	273
7.8	Perception of the affected Community about Hazards	274
7.9	Government's Policy of the Resettlement	275
7.10	Perception of the affected Community about Resettlement Process	277
7.11	Identification of the Problems of Resettlement	278
7.12	Proposing Solutions for the Problems of Resettlement	280
7.13	Testing of the Proposed Solutions	282
7.14	Modification and Finalizing the Solutions	283
7.15	A Model Tool for the Process of Resettlement	284
7.16	Conclusion	302
8	Findings, Recommendations and Conclusion of the Study	304
8.1	Introduction	305
8.2	Findings of the Study	306
8.2.1	Major Findings of the Study	306

8.2.1.1	Site of the old Balakot Town	306
8.2.1.2	Site of the new Balakot town	307
8.2.1.3	Situation of the Old Balakot Town	307
8.2.1.4	Situation of the New Balakot Town	308
8.2.1.5	People's Perception about Hazards	309
8.2.1.6	Perception about Government's Policy of the Resettlement	310
8.2.1.7	A Model Tool for the Process of Resettlement	311
8.2.2	Secondary Findings of the Study	312
8.2.2.1	Vulnerability to Earthquake of the old Balakot town	312
8.2.2.2	Vulnerability to Flash Floods of the old Balakot town	313
8.2.2.3	Vulnerability to Landslides of the old Balakot town	314
8.2.2.4	Vulnerability to Hydro-meteorological Hazards of the old Balakot town	314
8.2.2.5	Vulnerability to Drought and Fire of the old Balakot town	314
8.2.2.6	Vulnerability to Hazards of the new Balakot town	315
8.2.2.7	Shelters at the old Balakot town	315
8.2.2.8	Residence in the Old Balakot Town	316
8.2.2.9	Education Services at the old Balakot town	316
8.3.2.10	Health Services at the old Balakot town	316
8.2.2.11	Transport Services at the old Balakot town	316
8.2.2.12	Telecommunication and Postal Services at the old Balakot town	317
8.2.2.13	Emergency Response Services at the old Balakot town	317
8.2.2.14	Administrative Services at the old Balakot town	317
8.2.2.15	Administrative Activities at the new Balakot town	318
8.2.2.16	Shifting of the Administrative Activities	318
8.2.2.17	Services at the new Balakot town	318
8.2.2.18	Civic Infrastructure and Sanitation at the old Balakot town	319
8.2.2.19	Recreation Facilities at the old Balakot town	319
8.2.2.20	Civic Utilities at the old Balakot town	319
8.2.2.21	Civic Utilities at the new Balakot town	320
8.2.2.22	Living Standards at the old Balakot town	320
8.2.2.23	Commercial Activities at the old Balakot town	320
8.2.2.24	Commercial Activities at the new Balakot town	322

8.2.2.25	Political, Social and Cultural Activities at the old Balakot town	322
8.2.2.26	Political, Social and Cultural Activities at the new Balakot town	323
8.2.2.27	Social Setup at the new Balakot town	323
8.2.2.28	Religious and Emotional Sentiments	323
8.2.2.29	Non-Government Organizations (NGOs) Activities at the old Balakot town	324
8.2.2.30	Manufacturing Activities at the old Balakot town	325
8.2.2.31	Manufacturing Activities at the new Balakot town	325
8.2.2.32	Agriculture Activities at the old Balakot town	325
8.2.2.33	Surrounding Productive Land of the old Balakot town	326
8.2.2.34	Surrounding Productive Land of the new Balakot town	326
8.2.2.35	Property Ownership and Feudal System	326
8.2.2.36	The Entity of the Valley and location of the old Balakot town	327
8.2.2.37	New Site of Tehsil Balakot	327
8.2.2.38	Relative Location of the new Balakot town	327
8.2.2.39	Distance Between the old and new Balakot towns	327
8.2.2.40	Centrality of the old Balakot town	329
8.2.2.41	Centrality of the new Balakot town	330
8.2.2.42	Non-Basic Activities at the old Balakot town	330
8.2.2.43	Non-Basic Activities at the new Balakot town	331
8.3	Recommendations of the Study	331
8.4	Conclusion of the Study	337
	Reference	340
	Annexure – I Questionnaire for the Household (1st Phase)	352
	Annexure – II Questionnaire for the Commercial Unit (1st Phase)	358
	Annexure – III Questionnaire for the Manufacturing Unit (1st Phase)	362
	Annexure – IV Questionnaire for the Visitor/Customer (1st Phase)	367
	Annexure – V Questionnaire of the Proposed Solutions (2nd Phase)	371