



UNIVERSITI PUTRA MALAYSIA

**COMMUNITY PARTICIPATION IN FOREST MANAGEMENT
PROGRAMS IN AZAD JAMMU KASHMIR AND HAZARA, PAKISTAN**

**MAMOONA WALI MUHAMMAD
FH 2009 13**



**COMMUNITY PARTICIPATION IN FOREST MANAGEMENT
PROGRAMS IN AZAD JAMMU KASHMIR AND HAZARA, PAKISTAN**

By

MAMOONA WALI MUHAMMAD

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

December 2009



Especially Dedicated to

*My Father --- Khawaja Wali Muhammad (Late)
A forester who always shared my love of learning for
forestry and I gave his sacrifice on the very first
mile stone of road to PhD*

My Mother --- My Paradise

My Husband --- My Love

My Brothers and Sisters & their better halves

My Father-in-law & Mother-in-law

All My Students --- My Asset

&

Maaha & Sahar --- My Hope



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

**COMMUNITY PARTICIPATION IN FOREST MANAGEMENT
PROGRAMS IN AZAD JAMMU KASHMIR AND HAZARA, PAKISTAN**

By

MAMOONA WALI MUHAMMAD

December 2009

Chairman: Associate Professor Rusli Bin Mohd, PhD

Faculty : Forestry

Participatory forest management (PFM) initiatives have been in place in Pakistan for almost three decades, but apparently there have not been any visible impacts. The goal of this study was to evaluate two participatory forest management (PFM) programs, namely Integrated Land Management (ILM) and Participatory Watershed Management (PWSM), by assessing the levels of participation, factors influencing participation and the impacts of these programs on the socioeconomic conditions of local people and forest/watershed resource development.

A multistage random sampling technique was applied to select units of analysis, households (respondents). The total sample drawn was 1,817 units, 1,479 from the *program* sample group and 338 from the *no-program* group. A structured questionnaire was used in face to face interviews to collect research data. However, qualitative data collected through informal discussions, group meetings, and focus



groups were used to subjectively support the results of the quantitative data. The social, economic and forest resources impacts were assessed using different statistical analyses. The levels of participation of participants, forms of participation with reference to programs, and socio-demographic characteristics of participants and non-participants were measured using a three dimensional framework and Participants' Participation Index (PPI).

The study found that the anticipated objective, "to attain high level of peoples' participation in the forestry programs", has not optimally been accomplished. The majority of participants have not participated in all the program activities designed at four different levels of participation. Their participation was overall passive in both the PFM programs. In terms of socio-demographic characteristics of participants' landholding size ($p=0.012$) is an important factor in predicting who will participate in PFM. The other statistically significant factors include family sizes ($p=0.041$), source of secondary occupation ($p=0.000$) and levels of household income ($p=0.000$). The people were not given access to power in designing the projects according to their needs. Both the programs need to re-orientate their approaches toward making PFM better serve the needs of the local people.

The program had positive socio-economic impacts in terms of increase in the household income of the participants ($p=0.027$) and employment generation within program ($p=0.001$). The programs have not produced significant social impacts with regard to training opportunities ($p=0.377$).



Both the programs should be focused on delivering appropriate training courses, people empowerment and strengthening local institutions.

Likewise, the results on reforestation activities indicated no significant differences ($p=0.231$) between *program* and *no-program* areas, nor between participants and non-participants ($p=0.128$), even though more forest trees were planted under PWSMP. The participants planted more trees than non-participants. The programs succeeded in getting significant involvement ($p=0.000$) of people in forest protection activities. These two accomplishments serve the forest management and development aims of the programs, but do not materially improve the livelihood of the people at this time.

The PFM programs under study have not optimally achieved their desired objectives due to strategic and policy limitations in design and the implementation approach regarding people's participation. But, such programs can achieve substantial success through the participation of local people at all levels in forest management.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia bagi memenuhi keperluan Ijazah Doktor Falsafah

**PENGLIBATAN PENDUDUK DI DALAM PROGRAM PENGURUSAN
HUTAN DI DAERAH AZAD JAMMU KASHMIR DAN HAZARA,
PAKISTAN**

Oleh

MAMOONA WALI MUHAMMAD

Disember 2009

Pengerusi: Profesor Madya Rusli Bin Mohd, PhD

Fakulti: Perhutanan

Pengurusan hutan secara penglibatan telah di amalkan di Pakistan lebih kurang tiga dekad, tetapi sehingga kini impaknya adalah tidak jelas. Matlamat kajian ini adalah untuk menilai program pengurusan hutan secara penglibatan, iaitu Pengurusan Tanah Bersepadu (Integrated Land Management – ILM) dan Program Pengurusan Tadahan Hujan Secara Penglibatan (Participatory Watershed Management - PWSM), melalui penilaian ke atas tahap penglibatan, faktor yang mempengaruhi penglibatan dan impak program ke atas kedudukan sosioekonomi penduduk tempatan dan pembangunan sumber hutan.

Teknik persampelan pelbagai peringkat telah digunakan untuk memilih unit analisis, isirumah (responden). Jumlah sampel adalah sebanyak 1,817 unit, di mana 1,479 daripada kawasan yang terlibat dengan program dan 338 daripada kawasan yang tidak dalam program. Soalselidik berstruktur telah digunakan dalam temubual bagi pengumpulan data kajian. Walau bagaimanapun, data kualitatif dikumpulkan melalui perbincangan tidak formal, perjumpaan kelompok, dan perbincangan berfokus

kelompok juga digunakan bagi menyokong hasil kajian daripada data kuantitatif. Impak sosial, ekonomi dan sumber hutan telah dinilai menggunakan analisis statistik yang berbeza-beza. Tahap penglibatan peserta, bentuk penglibatan dengan merujuk kepada program, dan ciri-ciri sosiodemografi peserta dan bukan peserta telah diukur menggunakan rangka kerja tiga dimensi dan Indek Penglibatan Peserta (Participants' Participation Index –PPI).

Kajian mendapati bahawa objektif yang diharapkan daripada program, “untuk mencapai tahap tinggi dalam penglibatan penduduk dalam program perhutanan”, adalah belum dicapai secara optima. Majoriti daripada peserta belum lagi terlibat dalam semua aktiviti program yang disusun berdasarkan kepada empat tahap penglibatan yang berbeza. Secara keseluruhannya penglibatan mereka adalah pasif dalam kedua-dua program PFM. Dari segi ciri-ciri demografi peserta yang berkaitan dengan saiz pemilikan tanah ($p=0.012$) merupakan faktor penting dalam meramalkan siapa yang akan terlibat dalam PFM. Faktor lain yang signifikan dari segi statistik adalah termasuk saiz keluarga ($p=0.041$), sumber pekerjaan sekunder ($p=0.000$) dan tahap pendapatan isirumah ($p=0.000$). Penduduk telah tidak diberikan akses terhadap kuasa untuk merekabentuk projek sebagaimana mengikut keperluan mereka. Kedua-dua program memerlukan orientasi semula pendekatan mereka terhadap menjadikan PFM lebih baik dalam memenuhi keperluan penduduk tempatan.

Program ini mempunyai impak sosioekonomi positif dari segi peningkatan dalam pendapatan isirumah peserta ($p=0.027$) dan penjanaaan pendapatan dalam program ($p=0.001$). Walau bagaimana pun program ini tidak menghasilkan impak sosial signifikan yang berkaitan dengan peluang latihan ($p=0.377$). Kedua-dua program

seharusnya memberikan fokus kepada pemberian kursus latihan yang sesuai, pendayaupayaan penduduk setempat dan pengukuhan institusi tempatan.

Begitu juga, hasil kajian ke atas aktiviti penghutan semula (reforestation) memperlihatkan tidak terdapat perbezaan ($p=0.231$) antara kawasan yang ada program dengan kawasan yang tiada program, dan juga antara peserta dengan bukan-peserta ($p=0.128$), walaupun lebih banyak pokok hutan ditanam di PWSM. Peserta telah menanam lebih banyak pokok berbanding dengan bukan-peserta. Program ini telah berjaya dalam memperolehi penglibatan ($p=0.000$) penduduk dalam aktiviti perlindungan. Dua pencapaian ini dapat memenuhi matlamat program pengurusan dan pembangunan hutan, tetapi tidak memperbaiki kehidupan material penduduk pada masa ini.

Program PFM yang dikaji tidak mencapai objektif yang dihasratkan secara optima akibat batasan dasar dan strategi dalam rekabentuk dan pendekatan pelaksanaan yang berkaitan dengan penglibatan penduduk. Pada hakikatnya program seperti ini mampu mencapai kejayaan besar melalui penglibatan penduduk setempat di dalam pengurusan hutan.

ACKNOWLEDGEMENTS

In the name of Allah SWT, the Compassionate and the Merciful, without who's grace and blessings it would not have been accomplished. I wish to express my appreciation and sincere thanks to a number of people and organizations for their contributions to achieve this task. To the chairman of the supervisory committee (SC), Dr. Rusli Bin Mohd, for constructive suggestions, valuable guidance and positive criticism throughout this research. To the valuable member SC, Dr. Ma'rof Redzuan, who provided suggestions, assistance and brilliant comments to accomplish my research target. To the worthy member SC, Dr. Mohd Zaki Hamzah, who has shared his expertise and commitment and provided me constant guidance. To the external member SC, Dr. Bashir Ahmad Wani, for all his support throughout my professional career. To Associate Professors Dr. Bahaman Abu Samah, Dr. Saidon Amri and Dr. Mohd Roslan who always welcomed with a smiling face and three of them never fail to offer me support especially in statistical analysis. My sincere gratitude is due to them. To the Dean, the Deputy Dean for Research and Postgraduate Studies, Faculty of Forestry, for being helpful whenever I need.

To Gary Naughton, Professor Emeritus, Kansas State University, USA for constant encouragement and untiring task of thesis editing, this will always be remembered but can never be repaid. To Dr. Shifiquir Rehman, CF AJK, whom contributions from planning till end, is meant a lot to me. To Dr. A. L. Tom Hammett, Professor, Virginia Tech, USA for all his help especially for providing valuable literature. To M/S Raja Khizar Hyat, CCF AJK, and Mr. Iqbal Swati, CCF NWFP for making all possible arrangements for the successful data collection phase and I ensure my services as and



when departments needed. To Forest Department Officers, to name a few, Syed Noor Afzal Shah, PD/ CF PWSM, Mr. Mumtaz Qadir, PD/ CF ILM, Sardar Sultan, DFO Abbottabad, Mr. Khalid Javed, DFO Mansehra, Malik Saghir, DFO, Mr. Imtiaz Ahmed Awan, DFO ILM, Mr. Gohar Rehman, DFO Muzaffarabad, Mr. Manzoor Maqbool, DFO JV Muzaffarabad, Khawaja Nazir, CF AJK, Sheikh Abdul Hameed, Principal Kashmir Forest School and Mr. Aamir Shakeel, M&E Specialist for all their assistance. To Raja Muhammad Zarif, DFE PFI for allowing me to pursue my Ph.D. To the Team of Enumerators, for bearing the snowy weather and cold winds especially female team members whose kids were waiting for feed and they were committed to accomplish our target, thank you all for helping in the data collection.

I am also thankful to the examination committee Dr. Zahid Bin Emby, Dr. Mohamad Azani Alias and Dr. Khamurudin Bin Mohd Noor; and the external reviewer, Dr. Murari Suvedi, Professor and Senior Associate to the Dean, Michigan State University, USA, whose valuable comments helped to improve the quality of study.

Finally, to my husband who was remarkably patient and supportive during the inevitably antisocial period of research. To daughters, who were serene and considerate when they wanted to cuddle in me and I was away in field or busy writing. Mere words are not enough to thank them all and I would like them to know that this thesis is theirs. Finally, with my mother' prayers and strong determination, I recognized as I kept walking and even I took small steps every day, I have reached to my aspirations which seemed higher than sky!!

Mamoona Wali Muhammad
UPM, December 2009



This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as followed:

Rusli Bin Mohd, PhD

Associate Professor / Ex-Dean
Faculty of Forestry
Universiti Putra Malaysia
(Chairman)

Ma'rof Redzuan, PhD

Associate Professor
Head of Dept. of Social and Development Sciences
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

Capt. Mohd Zaki Hamzah, PhD

Associate Professor
Head of Department of Forest Production
Faculty of Forestry
Universiti Putra Malaysia
(Member)

Bashir Ahmad Wani, PhD

Inspector General of Forests
Government of Pakistan
Ministry of Environment, Islamabad, Pakistan
(External Member)

HASANAH MOHD GHAZALI, PhD

Professor and Dean,
School of Graduate Studies
Universiti Putra Malaysia

Date: 11 February 2010



TABLE OF CONTENTS

	Page
DEDICATION	ii
ABSTRACT	iii
ABSTRAK	vi
ACKNOWLEDGEMENTS	ix
APPROVAL	xi
DECLARATION	xiii
LIST OF TABLES	xix
LIST OF FIGURES	xxi
LIST OF APPENDICES	xxii
LIST OF ABBREVIATIONS	xxiii
GLOSSARY	xxiv
CHAPTERES	
1 INTRODUCTION	1-8
1.1 General Background	1
1.2 Problem Statement	3
1.3 Research Questions	6
1.4 Research Objectives	7
1.5 Significance of Study	8
1.6 Working Definitions	8
2 PARTICIPATORY FOREST MANAGEMENT	09-49
2.0 Introduction	9
2.1 Traditional Centralized Forest Management	10
2.2 Forest Management in Pakistan	13
2.2.1 History of Forest Management in Pakistan	13
2.2.2 Present Forest Management in Pakistan	17
2.3 Legal Categories of Forests in Pakistan	18
2.4 Forest Ownership Pattern in Pakistan	18
2.5 Conceptual Overview of Participatory Forest Management	20
2.5.1 Decentralization and Devolution	20
2.5.2 Participation	23
2.5.3 Terminologies for Participatory Forest Management (PFM)	23
2.6 Review of Participatory Forest Management	25
2.6.1 Review of PFM in Pakistan	25
2.6.2 Review of PFM Outside Pakistan	26
2.6.3 Centralized vs. Participatory Forest Management	29



2.7	Impacts of PFM	31
2.7.1	Impacts on Forest Resources	32
2.7.2	Impacts on Social Assets	34
2.7.3	Impacts on Economic Resources	35
2.7.4	Negative Impacts of PFM	36
2.7.5	Concluding Remarks on Impacts of PFM	40
2.8	Theoretical Framework of the Study	41
2.8.1	Theory of Social Exchange	42
2.8.2	Basic Concepts and Assumptions	43
2.8.3	Brief Description of Theory of Social Exchange	46
2.8.4	Summary of Theoretical Perspective of the Study	47
3	PARTICIPATION	50-87
3.0	Introduction	50
3.1	Participation Concept	50
3.2	Levels of Participation	54
3.2.1	Information	55
3.2.2	Consultation	55
3.2.3	Joint Planning	56
3.2.4	Decision Making	56
3.2.5	Empowerment	56
3.2.6	Partnership	57
3.2.7	Self Management	57
3.3	Forms of Participation	58
3.4	Drives for Participation	62
3.4.1	Functional	62
3.4.2	Empowering	63
3.4.3	Philosophical	63
3.4.4	Various Drives for PFM	64
3.5	Review of Participation in Forest Management	65
3.5.1	Benefits of Participation in Forest Management	69
3.5.2	Limits to Participation in Forest Management	71
3.6	Factors Affecting Participation	76
3.6.1	Institutional Factors	77
3.6.2	Socioeconomic Factors	80
3.7	Measuring Participation in PFM	82
4	METHODOLOGY	88-118
4.0	Introduction	88
4.1	Conceptual Framework of the Research	88
4.2	Operational Definition and Measurement of Variables	91
4.2.1	Independent Variables	92
4.3	Research Method	101
4.3.1	Sampling	101
4.3.2	Data Collection	107
4.3.3	Data Analysis	113



5	DESCRIPTION OF STUDY AREA AND SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS	119-160
5.0	Introduction	119
5.1	Overview of the Project Division Muzaffarabad	119
5.1.1	Brief History and Location of District Muzaffarabad, AJK	119
5.1.2	Physical Conditions and Natural Resources	120
5.1.3	Population and Socio-economic Setting	121
5.1.4	Land use and Forest Resource Management	123
5.2	ILM Muzaffarabad Project Description	127
5.2.1	Brief Project Description	127
5.2.2	Project Location	127
5.2.3	Project Objectives	129
5.2.4	Project Activities	130
5.2.5	Project Administrative and Management Mechanism	132
5.2.6	Project Operational Strategy	133
5.3	Overview of Hazara Division	135
5.3.1	Brief History and Location of Division Hazara-NWFP	135
5.3.2	Physical Conditions and Natural Resources	137
5.3.3	Population and Socio-economic Setting	139
5.3.4	Land use and Forest Resource Management	140
5.4	PWSM Project Description	143
5.4.1	Brief Project Description	143
5.4.2	Project Location	144
5.4.3	Project Objectives	144
5.4.4	Project Activities	145
5.4.5	Project Administrative and Management Mechanism	146
5.4.6	Project Implementation	147
5.5	Socio-Demographic Variables and Respondents Characteristics	150
5.5.1	Gender	150
5.5.2	Marital Status and Place of Birth	152
5.5.3	Family Size	152
5.5.4	Age	153
5.5.5	Education and Non-Formal Education Level	154
5.5.6	Occupation Type	156
5.5.7	Income Level	157
5.5.8	Land Ownership	159
6	RESULTS AND DISCUSSIONS	161-216
6.0	Introduction	161
6.1	People Participation Assessment in PFM	162
6.1.1	Levels of People Participation in PFM	162
6.1.2	Comparison of Participation Scores at Various Levels	166
6.1.3	Participants' Participation Index	167
6.1.4	Socio-Demographic Factors Influencing Participation	168
6.1.5	Forms of Participation	179
6.2	PFM and Forest Resource Development	180
6.2.1	Reforestation	180



6.2.2	Forest Protection	183
6.3	PFM and Social Impacts	186
6.3.1	Capacity Building	186
6.3.2	Employment Generation	187
6.3.3	Awareness	189
6.3.4	Satisfaction	191
6.3.5	Accessibility to Forest Resources	193
6.4	Economic Impacts	195
6.4.1	Household Income	195
6.4.2	Level of Dependency on Forest Resources	202
6.5	Relationship between PPI, Socioeconomic and Forest Resource Development	206
6.5.1	Relationship between PPI and Socioeconomic	206
6.5.2	Relationship between PPI and Forest Resource Development	208
6.6	Predictor Variables Explaining Participation in PFM	211
7	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	217-238
7.0	Prelude	217
7.1	Summary of Research Findings	219
7.1.1	Socio-demographic Characteristics of the Respondents	219
7.1.2	Impacts of Programs	221
7.2	Conclusion	228
7.3	Limitation, Implications and Recommendations of Research	233
7.3.1	Limitations of the Research	233
7.3.2	Implications of the Research	234
7.3.3	Recommendations of Research	237
	REFERENCES	239-256
	APPENDICES	257-301
	BIODATA OF STUDENT	302



LIST OF TABLES

Table		Page
2.6.1	Stylized Characteristics of Centralized and Participatory Approaches in Forest Management	29
5.5.1	Socio-demographics of Program and No-Program Respondents	151
5.5.2	Age of Program and No-Program Respondents	153
5.5.3	Education and Non-Formal Education Level of Program and No-Program Respondents	155
5.5.4	Type of Occupation of Program and No-Program Respondents	157
5.5.5	Income level of Program and No-Program Respondents	158
5.5.6	Type of Landholdings in Programs	160
6.1.1	Participation at Information Level	163
6.1.2	Participation at Consultation Level	163
6.1.3	Participation at Joint Planning, Implementation and Evaluation Level	164
6.1.4	Participation at Decision Making Level	165
6.1.5	Comparison of Participants' Participation Score at Various Levels in both Programs	166
6.1.6	Participant' Participation Index by Program	167
6.1.7	Gender, Marital Status and Place of Birth of PT and NPT	169
6.1.8	Age Groups of PT and NPT	170
6.1.9	Family Size of PT and NPT	171
6.1.10	Education Level of PT and NPT	172
6.1.11	Total Land of PT and NPT	173
6.1.12	Primary Occupation of PT and NPT	174
6.1.13	Secondary Occupation of PT and NPT	175
6.1.14	Total Annual Household Income of PT and NPT	176



6.1.15	Participants' Socio-Demographic Characteristics and PPI	177
6.2.1	Number of Forest Trees Planted by PT and NPT	181
6.2.2	Number of Forest Trees Planted by P and NP	181
6.2.3	T-Test of Reforestation by P and NP Respondents	182
6.2.4	T-Test of Reforestation by PT and NPT	182
6.2.5	Forest Protection by Program and No-Program Respondents	184
6.3.1	Chi Square Test of Capacity Building by PT and NPT	187
6.3.2	Chi Square Test of Employment Generation by PT and NPT	188
6.3.3	Respondent' Awareness about the Programs	189
6.3.4	Source of Information/ Awareness about the Programs	190
6.3.5	Chi Square Test of Source of Information and Awareness	190
6.3.6	Participants' Satisfaction from the Program	191
6.3.7	Participants' Reasons of Satisfaction from the Program	192
6.3.8	Participants' Reasons of Dissatisfaction from the Program	192
6.3.9	Program Respondents Accessibility to Forest Resources	194
6.4.1	Average Annual Income of the P and NP Respondents from Various Sources	196
6.4.2	T Test for Average Annual HH Income of the P and NP Respondents	197
6.4.3	T Test for Average Annual HH Income of the PT and NPT	197
6.4.4	Dependency on Forests Based Activities	203
6.4.5	Dependency on Forest as Energy Source	205
6.5.1	Correlation and Dependency between PPI and Socioeconomic Impacts	207
6.5.2	Correlation and Dependency between PPI and Forest Resource Development	209
6.6.1	Regression Analysis of Programs' Activities and PPI	212





LIST OF FIGURES

Figure		Page
2.1	Direct, Generalized and Productive Exchange Structure	45
4.1	Conceptual Framework of the Research	90
4.2	Three Dimensional Framework to Assess Participation	99
4.3	Levels VS Forms of Participation	101
4.4	Flow Chart of the Research Sampling	104
4.5	Sample Distribution between Program and No-Program	106
4.6	Framework of Data Analysis	114
5.1	Location Map of ILM, District Muzaffarabad	128
5.2	Location Map of PWSM Hazara, NWFP	136
5.3	Total Landholding Sizes of Program and No-Program Respondents	159



LIST OF APPENDICES

Appendix		Page
A-1	Working Definitions Used in Research	257
A-2	Legal Forest Categories of Pakistan	258
A-3	Forest Legislation in Pakistan	259
A-4	The Forms of Participation	260
A-5	Operational Definitions of Variables: Measurement Scales and Coding	261
A-6(i)	Questionnaire (English)	266
A-6(ii)	Questionnaire (Urdu)	278
A-7	Photo Gallery of Data Collection Phase	291
A-8	Biodata of the Student	302



LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AHKCRD	Akhtar Hameed Khan Centre for Rural Development, Islamabad
AJK	Azad Jammu and Kashmir, Pakistan
CBFM	Community Based Forest Management
CBNRM	Community Based Natural Resource Management
CBS	Central Bureau of Statistic, Pakistan
CCF	Chief Conservator of Forests
CF	Community Forestry
CFUG	Community Forestry User Group
CO	Community Organization
DFO	Divisional Forest Officer
FAO	Food and Agriculture Organization
FBA	Forest or Forest Resource Based Activities
FD	Forest Department
GOAJK	Government of AJK
GONWFP	Government of North West Frontier Province , Pakistan
GOP	Government of Pakistan
hh	Households
HRD	Human Resource Development
IGAs	Income Generation Activities
IGF	Inspector General Forests, Ministry of Environment, Pakistan
ILM	Integrated Land Management
ILMP	Integrated Land Management Program , AJK, Pakistan
JFM	Joint Forest Management



LFMCs	Local Forest Management Committees
LPG	Liquefied Petroleum Gas
MHDC	Mahboob-Ul-Haq Human Development Centre, Pakistan
NA	Not Applicable
NGO	Non Governmental Organization
NPT	Non Participants
NTFP	Non Timber/ Wood Forest Products
NRM	Natural Resource Management
NWFP	North West Frontier Province , Pakistan
PD	Project Director
PFI	Pakistan Forest Institute, Peshawar
PFM	Participatory Forest Management
PMU	Program Management Unit
PPI	Participants' Participation Index
PRFC-ILM	ILM Project Revolving Fund for Credit
PT	Participants
PWS	Participatory Watershed Management
PWSM	Participatory Watershed Management Program, NWFP, Pakistan
SF	Social Forestry
UC	Union Council (administrative sub unit at lower level)
VO/ VDC	Village Organization/ Village Development Committee
WO	Women Organization

