BABAR SHAHBAZ

Dilemmas in Participatory Forest Management in Northwest Pakistan

A Livelihoods Perspective

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Babar Shahbaz

Acknowledgements

Dedicated to my family

Contents

FIGURES

TABLES

Glossary

Adults – Individuals aged 15 years or over at the time of data collection. This includes youths and adults.

Asher – A form of working together at no cost for collective benefits. The villagers help each other during peak and heavy seasonal works. Though it is primarily used for crop harvesting, sowing, threshing, land preparation, roof topping and grass harvesting, it is also employed for communal development works and emergencies.

Children – Individuals aged over 6 years and less than 15 years at the time of data collection.

Forest department – The Department of Forestry, Fisheries and Wildlife (DFFW) of the Government of the North West Frontier Province of Pakistan.

Global change – Global-scale human-induced and natural changes that modify the natural, social, economic and cultural dimensions of the Earth system (Hurni et. al., 2004).

Globalization – Increasing interlinking of political, economic, institutional, social, cultural, technical and ecological issues at global level (Hurni et. al., 2004).

Guzara forests – "Guzara" is a local word meaning subsistence. The "guzara" forests are the private forests located close to settlements to meet the needs of the local communities. These are managed either by communities as communal property or are held privately, and the forest department regulates the removal of timber for commercial as well as local use.

Hakeem – The traditional doctor (usually non-qualified) who prepares medicines from the medicinal plants and herbs, etc.

Head of the household – The person (mostly male) in a household who has decision-making authority regarding household affairs. He is the most influential member of the family. He is the main representative of the family.

Household – The family unit living according to common economic arrangements such as sharing a common kitchen, etc.

Institutions – Institutions are a set of rules (rules of the game) and norms that govern and constrain human interaction.

Jirga – "Jirga" is the council of village elders formed according to the circumstances and with the consent of the concerned parties, whenever a conflict arises in the village. The decision of the "Jirga" is acceptable to and unchallengeable by both parties.

Kacha road – Non-metallic (unpaved) road

Kanal – A unit of area (eight acres = one kanal).

Kharif – Summer cropping season. Sowing takes place in April-June and harvesting in October-December.

Khel – A local name used to indicate tribe.

Kids – Individuals aged less than six years at the time of data collection.

Livelihood – It can be defined as, "a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base." (Chamber and Conway, 1992)

Livelihood assets (capitals) – Assets are the key elements on which livelihoods are built and can be divided into five core categories (or types of capital). These are: human capital, natural capital, financial capital, social capital, and physical capital.

Livelihood security – If a livelihood can continue on a sustainable basis and has the potential to survive through all possible threats, then it can be regarded as a secure livelihood.

Madrassah – A religious school.

Marginal region/ people – Region (or people) partially or completely isolated from the mainstream of development.

Maund – Local unit of weight (one maund = 37 kg)

Natural forests – Natural forests are forests composed of native species that are managed and utilized but regenerated naturally following their harvest, or forests undisturbed by human management.

Nazim – The person in charge of the local government body. Synonym for mayor.

Primary source of income – Income-generating activity which accounts for a major share of the household budget.

Protected forest – In this category of forests, local people are given comparatively more rights, e.g. share of sales and use of timber and fuel wood, and grazing of animals, etc.

Pucca road – Motorable metallic (paved) road

Quome – A local word used to indicate tribe.

Rabi – Winter cropping season. The sowing season takes place in October-December and harvesting in April-May.

Reserved forest – These are owned by the government or else the government has proprietary rights over them. However, limited rights like unregulated grazing and the removal of dry fuel wood are also accorded to local communities.

Secondary source of income – Second most important income-generating activity (after primary) contributing to household income.

Sustainable development – Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Sustainable livelihood – A livelihood is sustainable when it is capable of continuously maintaining or enhancing the current standard of living without undermining the natural resource base. For this to happen, it should be able to overcome and recover from stresses and shocks (e.g. natural disasters or economic upsets).

Sustainable livelihoods framework (SLF) – The Sustainable Livelihood Framework serves as an instrument for the investigation of poor people's livelihoods, whilst visualizing the main factors of influence.

Timber mafia – The (unlawful) network of timber dealers, politicians, forest officials, police, local influential leaders, etc. which makes money through the illegal cutting and smuggling of forest trees.

Tertiary source of income – Third most important income-generating activity (after primary and secondary).

Village Development Committee (VDC) – The committee comprising about 15-20 members elected by the people of project villages to implement the VLUP and to carry out development activities.

Village Land Use Plan (VLUP) – A management plan prepared by the forest department in collaboration with the local communities. The main objectives of the plan are to involve the local communities in the protection and management of the forests and other lands by carrying out development activities and other interventions of the FSP.

Vulnerability context – A key component of the SLF, the vulnerability context refers to the shocks, trends and seasonality that affect people's livelihoods (often - but not always - negatively). The key feature of all the factors within the Vulnerability Context is that they are not controllable by local people in the short- or medium-term (DFID, 2001).

1   Introduction and Context

1.1   The challenge and the response

The natural forests of Pakistan are mostly located in the hilly areas of
the North West Frontier Province (NWFP)[1], Azad Jammu and Kashmir
(AJK) and Northern Areas. These forests are vanishing at a rate that is
one of highest[2] in the world (FAO, 2007) and forest depletion is one of
the most serious environmental concerns for Pakistan since it is accom-
panied by many other environmental and economic effects such as
landslides, soil erosion, floods, soil degradation, displacement of peo-
ple, etc. Ineffective, top-down and non-participatory forest management
practice by the state Forest Departments is often reported as one of the
main causes of forest depletion in NWFP. The depletion of forest re-
sources has also led to an escalation of conflicts between various stake-
holders. The international community and the state authorities of Pakis-
tan responded to this, and many forestry projects and extension
programmes were implemented in the upland areas of NWFP. The core
intention of most of these interventions was to rehabilitate and protect
forest areas, securing the downstream water supply, limiting the prob-
lems caused by erosion and silting-up, and alleviating rural poverty by
involving local communities and motivating them to participate in
forest management activities (see Chapter 6 for details). Thus the main
thrust of most interventions was 'participatory forest management'.

In 1996, the Forest Department of NWFP initiated a comprehensive
institutional reform process under the Asian Development Bank's as-
sisted Forest Sector Project[3] (FSP). This project adopted an institutional

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[1] Almost 40% of country's forests are in NWFP

[2] Between the years 2000 and 2005, Pakistan lost its forests at a rate of 43,000 hectares per
year.

[3] Details in Chapter 6

approach and its aim was to institutionalise the sustainable manage-
ment of the renewable natural resources throughout NWFP by develop-
ing and applying an integrated participatory natural resource-
management strategy to promote the socio-economic and environ-
mental wellbeing of the local communities. The key element in this
strategy was to decentralise forest governance by creating Joint Forest
Management Committees (JFMCs) at local level to increase public par-
ticipation in forest-related issues.

1.2　Research question

The notions of decentralisation and participation have become promi-
nent words and inspire development practitioners and researchers in a
world of rapid global change and transformations. This book strives to
understand the triangle between rural livelihoods, the role of forests in
livelihoods, and the issue of (changing) forest governance. In other
words, the book hypothesizes that forest governance influences the
access people have to forests, which in turn play a particular role in
their livelihoods. Also, forest governance in NWFP is to be changed
through Joint Forest Management (JFM) and it was therefore considered
imperative to study its impact on livelihoods. The main intentions of
this book are to identify issues that support or hinder the effectiveness
of forest reforms and the devolution process in NWFP, to support na-
tional, regional and international policymakers in their efforts to bring
about sustainable forest governance and further reforms.

1.3　Research approach and methodology

This book is based on the author's Ph.D. research and doctoral disserta-
tion. A combination of qualitative and quantitative methods of social
research was used to obtain the data during the years 2004 and 2005.
Various in-depth key informant and focus group interviews were con-

ducted in Mansehra and Swat districts of NWFP during this period. The author also overtly participated in the monthly meetings of village development committees in some of the study villages. For impact evaluation, the technique of comparison of the control group (those areas or individuals that do not participate in a project) with the treatment group (individuals or areas that do receive the interventions) was selected (Baker, 2000). Therefore, for quantitative data collection, there were two populations of the study viz. those villages where the participatory forest management approach had been implemented under FSP, and the villages where the forests were being managed in the traditional (old) way and where the FSP did not intervene (for detailed methodology, see Chapter 2). The sustainable livelihoods framework (SLF) developed by London-based Department for International Development (DFID, 2001) was used in this book for livelihood analysis.
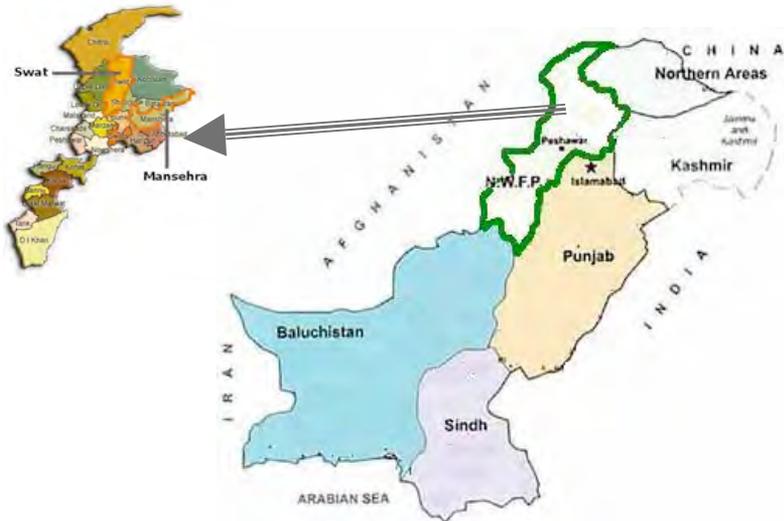
Figure 1   Map of Pakistan and NWFP showing the study districts (Swat and Mansehra)

1.4   Structure of the book

The format/framework of this book is as follows. After this introduction and background, the next chapter presents the research framework and methodological approach. Chapter 3 discusses rural livelihoods in the context of NWFP and Pakistan and elaborates findings from the case studies. Chapter 4 zooms in on the role of the forests in the rural livelihoods, and Chapter 5 presents an historical overview of access to forests in different regions of NWFP, followed by an elaboration of changes in forest governance in the context of JFM (Chapter 6). The in-depth analysis of institutional changes in forest governance and local livelihoods in NWFP is given and discussed in the Chapter 7. This chapter draws upon the previous chapters to come up with the impact of participatory/decentralised forest management on people's access to livelihood assets and their livelihood strategies, and the link between forest reforms and the devolution plan. Analysis of the forestry reforms from the stakeholders' perspective is given in Chapter 8. The issues supporting and hindering the effectiveness of institutional reforms are discussed in Chapter 9. Conclusions, recommendations and the directions for future research are then presented in the final chapter.

2 Conceptual and Methodological Approach

2.1 Participatory forest management – contemporary debates

Over the last three decades or so, priorities in international forestry have gradually shifted from production in the 1970s through production and conservation during the 1980s (Fraser, 2002) to production, conservation, and participation in the 1990s (Shackleton et. al., 2002). Participation and decentralisation have become leading themes in forest policy and natural resource management (NRM) throughout the world (see for example Baumann, 2000; Dupar and Badenoch, 2002; and Rosyadi et. al., 2005). Calls for the devolution of power to the local level are persistent across the international community, and all recognize the central role of local users of resources in their management. The arguments surrounding the decentralisation debate involve the discussion of the appropriate institutional form needed to manage forest resources (Hobley, 1996). Conventional theories applied to forest resources presumed that forest users themselves were unable to organise themselves in order to overcome the temptation to over-harvest. Extensive empirical research has challenged this presumption, however, and has demonstrated that, in many regions, forest users themselves have devised rules regulating harvesting patterns so as to ensure the sustainability of forest resources over time (Ostrom, 1999).

In most developing countries, community (participatory) forestry policies emerge as a response to 'institutional failure' regarding the sustainable management of the forest resources (Siry et. al., 2005; and Shahbaz et. al., 2006). The main thrust of collaborative or participatory forest management is to develop partnerships between local communities and forest departments (representing the state) to manage forests sustaina-

bly on the basis of a friendly relationship and trust. Literature about trust suggests that trust is a way to improve cooperation and reduce insecurity in the relationship between different actors (Gardener et. al., 2001; and Pretty and Ward, 2001). However, experience also shows that joint or co-management agreements between state agencies and other stakeholders can set in motion new conflicts or cause old ones to escalate (Castro and Nielsen, 2001).

The transformation of forest management into a multiple stakeholder, community-based approach is not easy. In fact, it is a major challenge in many countries (Nygren, 2005). Studies in different countries have shown that devolution policies often yield benefits for local people, but in practice there are also lots of hindering factors. **Positive outcomes** attributed to decentralisation efforts involving natural resources include the following (Malla, 2000; Miyuki and Boonthavy, 2004; and Ribot, 2004):

- Increased interaction between state actors and local people;
- Local governments/institutions have been able to demonstrate capacity and initiative in natural resource management;
- Empowerment of local people to protect their forests from outside commercial interests;
- Increased revenues (for local people/institutions) from resource use;
- Marginal and disadvantaged groups have played a greater role in natural resource management and have benefited more from local resources;
- Some cases of sustainable forest management have been observed;
- Diversification of livelihoods;
- Infrastructure development;
- Increased awareness about the value of collective action in natural resource management and mutual assistance.

Negative outcomes associated with decentralisation include elite capture and conflicts. Many more poor outcomes are associated with in-

complete decentralisation processes. Some of these include (Shackleton et al., 2002; and Ribot, 2004):

- Increased vulnerability of local people when management burdens are transferred without resources;

- The tendency of "decentralised" projects to mobilise local people as mere labour rather than empowering them to make decisions for themselves;

- The creation of new forms of exclusion through double standards that require complex management plans from local communities while allowing large-scale commercial interests to enter and use the resource with little planning and even less monitoring;

- Increased public exclusion through privatization of public resources such as forests to individuals, corporations, NGOs, and customary authorities.

- At many sites, parallel hierarchies of traditional leadership, local government and line department-sponsored committees

Although, with decentralisation, the natural resource transfer is a great opportunity for increasing local authorities' relevance to local people, it nonetheless simultaneously presents a threat to central authorities and elites who fear a loss of income or patronage resources (Larson and Ribot, 2004). The issue of forest governance (in many countries) is highly dominated by **the state versus community discourse** (Saigal, 2000; Timsina and Paudel, 2003). Forest departments are facing a number of internal conflicts as they try to adjust to their 'new roles', from being implementer to becoming a facilitator. A number of operational problems as well as larger policy questions are also emerging in the course of implementation of the programme at field level (Saigal, 2000). For instance, an analysis of changes in the forest sector of India indicates that much that has been vaunted as decentralisation has actually increased the power of the state at village level (Hobley, 1996), while Dupar and Badenoch (2002) warned that local elites could dominate decentralisation to such an extent that they undermine the expected benefits of decentralised forest management. In the same vein, Richards

et al. (2003) argue that participation by local forest users in forestry projects has often suffered from too week economic incentives.

Ribot (2002) argued that central governments play a key role in effective decentralisation, despite the fact that most resistance to decentralisation comes from within government. Decentralisation is not about the downsizing or dismantling of central government; rather, it calls for mutually supportive democratic central and local governance. Nevertheless, strong political will is essential for effective decentralised forest management, otherwise it simply reinforces state control over resources. Despite the continued emphasis on devolving forest management authorities to local communities in many countries, in practice there has been very limited genuine devolution of authority and power over the forest. Citing evidence from Nepal's community forestry, Dahal (2003) argued that the limited implementation of devolution policy is primarily because of poor governance and weak institutions. Likewise, participatory committees (in India) are tightly controlled by the forest department (Sundar, 2001). Fiszbein (1997) observes that in Colombia the proponents of decentralisation did not contest that local entities already had the capacity to manage. He argued that only through decentralisation could these capacities be developed. He concludes by saying that what is often perceived as a lack of capacity is in reality conflicting objectives. Long-term commitment by actors, as well as the capacity of and incentives for the local communities, are some of the factors that make effective decentralised resource management possible (Lareson, 2001).

The potential of decentralisation to be effective, efficient and equitable depends on the creation of (truly) democratic local institutions with considerable discretionary powers. But there are few cases where democratic institutions are formed and given discretionary powers. Ironically, there is already starting to be a backlash against the decentralisation of powers over natural resources.

2.2 Forest conservation versus livelihoods

The role of forest resources in meeting growing human needs during the past four decades has been the subject of intense debates; likewise the nexus of forest conservation vis-à-vis poverty alleviation has also been the overarching theme of forest policy research (Sunderlin et al., 2005). However, inadequate attention has been paid locally and globally to the serious threats to the security of local people who depend on forest for their livelihoods (Fisher, 1995; Kaimowitz, 2002). Forests, woodlands and trees relate to rural livelihood in many complex and indirect ways. Most policymakers, development and conservation professionals do not realise how important forest and tree resources really are to the rural poor (Kaimowitz, 2002). There is a close link between local livelihoods and state policies. Understanding how these levels interact is of vital importance for developing sustainable forest management. Many researchers (see for example Fometer and Vermaat, 2001a; and Brown et al., 2002) are convinced that community forestry does have the potential to make a positive contribution to improving rural livelihoods and poverty alleviation. But for this to occur, a number of key conditions have to be met. These include enforced legal protection from outside 'incursions', community participation in the planning process, technical and management skills, etc.

The choice of livelihood strategies is driven in part by people's preferences and priorities. But it is also influenced by the policies and by the formal and informal institutions and processes that impinge on people's everyday life (Baumann and Sinha, 2001). However, the stakeholders often find themselves in a situation where state policies either do not support or even have harmful affects on their livelihoods strategies (Suleri, 2002). The researchers argue that the devolution of forest management authority to local communities in mountain regions can provide a good opportunity to improve their living standards; on the other hand, it may also lead to an increase in the exploitation of resources by

local people in search of greater income (Baumann, 2000; and Baumann and Sinha, 2001). Decentralisation has the potential to enhance communities' social assets. Community forestry process could provide financial and political resources to support communities' existing self-help efforts and environmental conservation activities (Dupar and Badenoch, 2002). For example, in Nepal, community forestry has a generally beneficial impact on household livelihoods through (Bampton, 2003; Dahal, 2003; Springate-Baginski, 2003):

- Improved flows of forest products on a sustainable basis;
- Improved social capital; the development of a local community planning institution;
- Improvement in community infrastructure such as schools and roads;
- Livelihood opportunities such as non-timber forest products collection and credit facilities.

De Haan and Zoomers (2005) argued that access to livelihood opportunities is governed by social relations, institutions and organisations, and that power is an important (and sometimes overlooked) explanatory variable. However, community forestry policy still does not explicitly address livelihood or poverty alleviation issues (Sprinagat-Baginski, 2003). Poorer households were found to benefit significantly less than wealthier households and, in some cases, may even be directly disadvantaged by the advent of community forestry in their villages (Malla et. al., 2003). For example, in Nepal, despite a large-scale expansion of community forestry, this has made no clear and consistent contribution to the livelihoods, especially of the poor (Neupane, 2003).

Policy-makers and foresters have also discussed joint forest management (JFM) monitoring, but they have seldom considered the livelihoods outcome/impact of JFM (Bahuguna and Upadhyay, 2004). So it is of utmost importance to verify and monitor the impact of JFM on livelihoods (Panday, 2005). This book has therefore been written with the intention of understanding the linkages between rural livelihoods, the

role forests play in these livelihoods, and the impact of (changing) forest governance on these livelihoods. It may be rather difficult to separate these spheres exactly from one another, particularly in the situation examined for this book.

2.3   Refining the research questions

The literature presented in the above sections demonstrates a close link between local livelihoods and state policies. The policies, institutions and processes form the context within which individuals or households construct or adopt various livelihood strategies (Mueller-Boeker, 2004). Intensive institutional reforms (with an emphasis on community participation) were made in the forestry sector in NWFP (see Chapter 6), and the forestry sector of NWFP therefore makes an interesting case study to analyse the impact of state policies (participatory forest management) on rural livelihoods. This book specifically explores the access of the respondents to livelihood assets (in the context of participatory forestry). In this context, the guiding questions for this book are:

i.   What are the various available assets (human, natural, financial, physical and social) for forest users to build their livelihoods strategies?

ii.   What are the factors within the vulnerability context (trends, shocks and seasonality) that affect the livelihoods of forest users?

iii.   What is the effect of forest reform processes on the (access to) livelihood assets and livelihood strategies of local people?

iv.   What measures ("structures and processes" in the terminology of the livelihoods framework) are being taken to ensure the active participation of community in the forest reform process and decentralisation?

v.   Who are the main stakeholders involved in the forest management context in NWFP?

vi.   Based on the livelihoods and actors' analysis, which issues or factors can be identified that hinder the effectiveness of JFM, and which entry points can be identified for improvement?

2.4   Methodological approach

The main objective of this study was to assess the impact of participatory forestry on rural livelihoods and to identify issues that hinder the effectiveness of decentralised forest management in NWFP. This was done by analyzing the (access to) livelihood assets, vulnerability context and livelihood strategies of the respondents in the context of institutional changes in forestry sector of NWFP using the sustainable livelihoods framework (SLF). The SLF shows itself to be a useful tool for the analysis of decentralised natural resource management from the livelihoods perspectives (Bauman, 2000). It is primarily a conceptual framework for analyzing peoples' access to resources and their diverse livelihoods activities, as well as the inter-relationships between key factors governing people's livelihoods. It is also a framework for assessing and prioritizing interventions (Adato and Meinzen-Dick, 2002).

2.4.1 The sustainable livelihoods framework

Contemporary livelihoods studies had their conceptual roots in the general understanding of livelihoods of poor people promoted by Chambers and Conway (1992). In their interpretation, a livelihood comprises the capabilities, assets (including both material and social resources) and activities required to make a living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. The sustain-

able livelihoods framework (SLF) developed by the UK Department for International Development (DfID) adapts this definition to apply it to livelihood analysis. In its simplest form (see Figure 2), the framework views people as operating in the context of vulnerability. Within this context, they have access to certain assets or poverty reducing factors. These derive their meaning and values from the prevailing social, institutional and organisational environment. This environment also influences the livelihood strategies that are open to people in pursuit of beneficial livelihood outcomes that meet their livelihood objectives (DfID, 2001).

The approach has many strengths, but some weaknesses can also be found. One of the major concerns is that the sustainable livelihoods approach is too complex. Furthermore, some researchers (for example Murray, 2001; Toner, 2003) consider that 'the approach is overambitious and offers insufficient practical guidance on the way forward' (Carney, 1999a). However the complication is due to the need for the holistic understanding of multifaceted livelihood systems. The approach is not an outline for rural development but more of an analytical framework that guides the thinking behind development intervention and planning. Sustainable livelihoods thinking has also been criticised for underplaying the importance of one or more critical factors including vulnerability, gender, markets etc. (Carney, 2002).

The basis of the SLF is the assets pentagon and the flexible combinations of - and trade-offs between - different assets such as human, physical, financial, social and natural ones. According to the livelihoods approach, the asset status of the poor is fundamental to understanding the options open to them and the strategies they adopt to attain livelihood outcomes. However, two layers of critique can be formulated at this point. The first layer is the criticism that, in this inventive focus on trade-off of forms of capital, authors often do not know how to go beyond material motives and aims (De-Haan and Zoomers, 2005). More generally, equating 'assets' theoretically with the range of 'capitals'

through the 'asset pentagon' intellectually distorts our understanding of capital and politically distorts our understanding of the causes of poverty. On the first point, capital is in reality a social relation between people, not an attribute of rich or poor households or individuals. On the second point, attention is displaced from the inequalities of power that must surely be invoked to explain the persistence or the worsening of poverty (Murray, 2001). Helmore (1998) postulated that the analysis of assets is a review of what people have (and recognition of what people don't have) rather than an analysis of needs. Carney (1998) elucidated that the asset analysis also considers how access to assets has changed over time, what changes are predicted, what the causes of these changes are and how access and control of assets differs between social groups. Likewise Ellis (2000), in his definition of a 'livelihood', has placed more emphasis on **the access to assets** and activities that is influenced by social relations (gender, class, kin, belief systems) and institutions.

Nevertheless, Baumann (2002) endorsed the fact that the SLF is much more suited to an analysis of micro-level processes than it is to either macro-level processes or to the interaction between the micro and the macro level. There are diverse prospects for it to be applied and they are not limited to livelihood thinking only. Its flexible design and openness to changes makes it adjustable to varied local contexts, where it can be applied to different extents in relation to the development-oriented research. The key strengths of the SLF are that it is people-centered, holistic, designed to be participatory and has an emphasis on sustainability (DFID, 2001). Furthermore, the approach is positive in that it first identifies what people have, rather than focusing on what people do not have. The approach recognizes diverse livelihood strategies, it can be multi–level - household, community, regional or national - and can be dynamic. It is not only an instrument for project design but can be used to reshape a sectoral or programme intervention so that it 'fits' in better with livelihoods, impact assessment of a project, understanding factors

affecting local participation in an intervention, or participatory planning with communities. Livelihoods analysis can be very helpful to show how an intervention fits in with livelihoods strategies and how people's access to livelihood assets are being enhanced or constrained (Ashley, 2000; DFID, 2001; and Adato and Meinzen-Dick, 2002). On this basis, recommendations for improvements in the intervention can invariably be made. However, it is less useful for quantifying changes in livelihood security or sustainability. Aggregating the results is therefore also more difficult (Ashley, 2005).

Figure 2   Sustainable livelihoods framework (DFID, 2001)
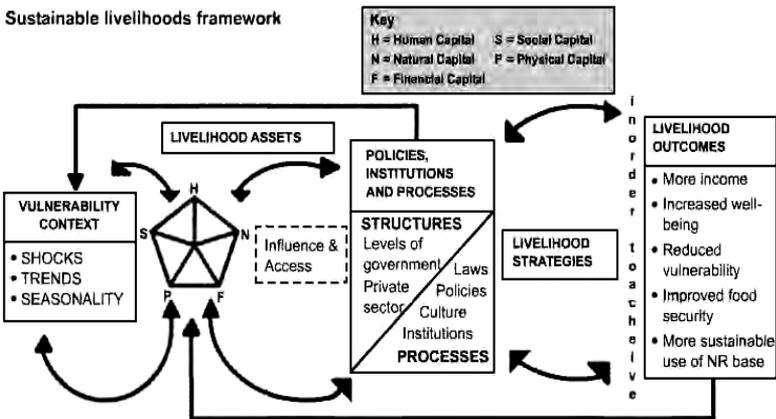
The SLF is used in this book as a checklist to determine the asset base and factors of vulnerability in the project compared to non-project villages. The present study specifically analyses the asset base of the respondents and explores respondents' access to livelihood assets (in the context of participatory forest management) because (we argue that) inadequate or limited access to livelihood assets increases defencelessness and exposure (or vulnerability) to shocks and stresses (risks). Re-

stricted access (or lack of access) to certain livelihood assets would increase vulnerability, defenselessness and insecurity (see Chambers, 1989; and O'Riordan, 2002) and it ultimately increases the external dimension of risks, shocks, and stress such as negative income shocks, diseases, and natural hazards (UNISDR, 2004) to which an individual or household is subjected.

2.4.2 Research area, sampling and data collection

The North West Frontier Province (NWFP) of Pakistan was purposely chosen for the present research project because it has a larger area of natural forests than other provinces and territories in the country. Within NWFP, Mansehra and Swat districts were chosen because they are among the districts in Pakistan with the largest forest resources.

For impact evaluation, the technique of comparing the control group (those areas or individuals who do not participate in a project) with the treatment group (individuals or areas who do receive the interventions) was selected (Baker, 2000). There were therefore two populations in the study. Population I (the project villages) consisted of the adult family heads of all households in the project villages, i.e. the villages where the participatory/decentralised forest management approach had been implemented under Forestry Sector Project (FSP), and where a Village Land Use Plan (VLUP) had been approved. The village level institutions, i.e. Village Development Committee (VDC) and Women's Organization (WO) had been created for the implementation of the VLUP[4]. Population II (non-project villages) consisted of all the family heads in the non-project villages, i.e. the villages where the forests were being managed in the traditional (old) way and where the FSP did not have any interventions. There were two samples of the research study:

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[4] FSP also had a development component (improvement of village infrastructure), see 6.2.1.

Sample 1: Four villages were selected at random from Population I (project villages), – two each from Mansehra and Swat Districts (Figure 3):

   i)   Gulmera (Mansehra)

   ii) Phaggal (Mansehra)

   iii) Gujaro Khowre (Swat)

   iv) Asharay (Swat)

From each village, fifty households were selected at random, meaning that in total 200 households were selected randomly from Population I (project villages). In all of these villages, the VDCs/WOs had been formed and the activities of participatory forest management started in 2001-02.

Sample 2: Four villages were selected at random fom Population II (non-project villages) - two each from Mansehra and Swat districts:

   i)   Kotli Bala (Mansehra)

   ii) Kharyala Dogah (Mansehra)

   iii) Spul Bandi (Swat)

   iv) Gibral-utror (Swat)

From each village, fifty households were selected at random, meaning that in total 200 households were selected randomly from Population II (non-project villages).

A combination of qualitative[5] and quantitative methods of social research was used to obtain the data. Researchers have advocated a combination of the survey technique with qualitative methods for liveli-

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[5] For qualitative data collection (key-informants and focus group interviews etc.), the author visited about 15 villages including the above-mentioned eight villages.

hoods analysis (see for example Ellis, 2000; and DFID, 2001) and for assessing the impact of projects (Baker, 2000). The quantitative data was collected using a questionnaire, while the qualitative data was collected to elucidate the quantitative data and to obtain a comprehensive over-view of the problem. Key informant as well as focus group interviews and personal observations were some of the tools used for qualitative data collection. The findings from the quantitative and qualitative data collection were combined/integrated to draw out the real situation.
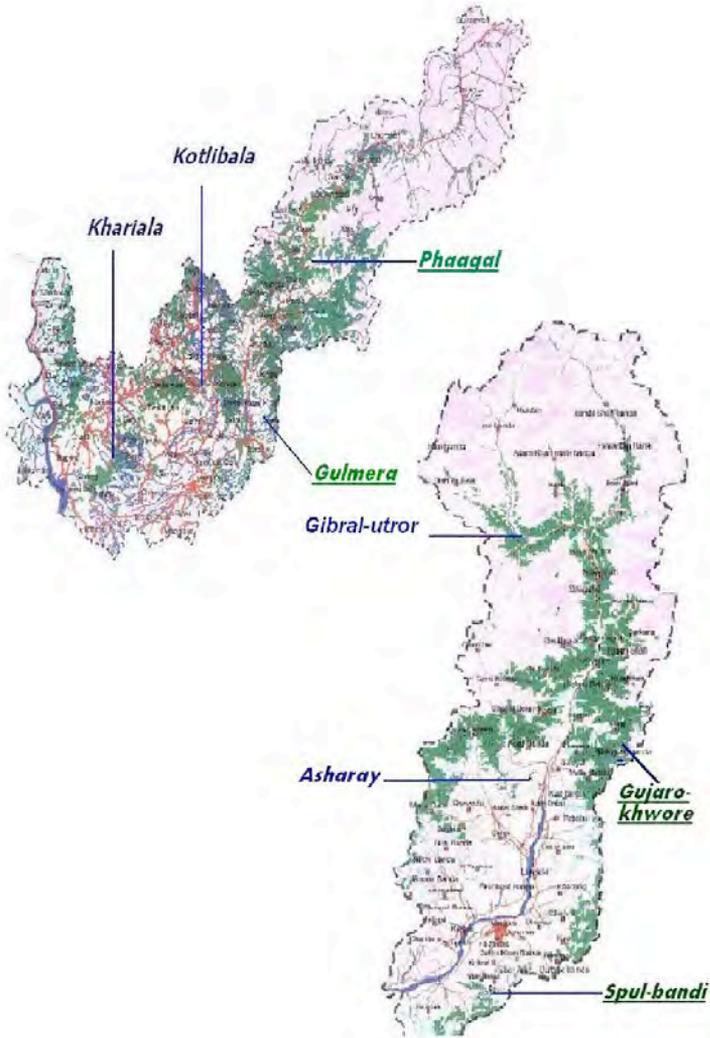
Figure 3   Land-use maps of Mansehra (top) and Swat (bottom), with the location of study villages (Source: GIS Section, NWFP Department of Forestry, Fisheries and Wildlife, Peshawar)

3 Rural Livelihoods in NWFP

3.1 Overview

In this chapter, the SLF is used as a theoretical framework for a livelihoods analysis in the context of institutional changes in the forestry sector. A literature review indicates that SLF, despite having some weaknesses, is a practical tool for carrying out an impact assessment of project interventions in a livelihoods context (Ashley, 2000; DFID, 2001; and Adato and Meinzen-Dick, 2002). Although SLF has been criticised as complex and overambitious, it nevertheless has the positive attribute of first identifying what people have rather than focusing on what people do not have (DFID, 2001).

3.2 Livelihood Assets

One of the objectives of this research project was to identify and analyse the livelihood assets of the respondents, and the assets pentagon of the SLF was taken as the starting point for livelihood analysis. The SLF, which identifies five livelihood capitals or assets upon which individuals and households build their livelihood strategies, was used as a checklist to identify the respondents' asset base (see Figure 2).

3.2.1 Natural assets

Natural assets refer to the forest, land, water, biodiversity, etc. that are available to people. Conserving natural capital is one of the key aims of participatory forest management apart from livelihoods improvement (Belcher, 2005). Therefore the major objective of participatory forestry in NWFP is also to enhance natural capital (especially forests), along with human, financial and other livelihood capitals (Govt. of NWFP, 2001).

Three indicators of natural capital, viz. forests, land and water (Gottret and White, 2001), were selected for this study. The quality and access to these capitals were measured quantitatively by using a five-point Likert scale, while qualitative data were also used to explain the findings from the quantitative data.

a) Forests

Forests were assumed to be the most important natural asset of the people living in and around the forest area.

Forest-use patterns:[6] The respondents were asked about their usage of forest resources (wood, forest land, medicinal plants, etc.). It was found that the forest wood was being used as fuel wood and as timber, either to build new houses or to repair existing houses (when required). However, an insignificant proportion of respondents were using forests for commercial purposes, such as selling wood, and using forest land for "qalang" (the fees that landowners receive from nomads as payment for grazing their lands) and for other forest products.

Distance, density and access to the nearest forests: The data regarding the distance of the respondent's house from the forest, the perceived density of forests and institutional access to forests are described in this section.

The average distance of the forest from the homes of respondents in project and non-project villages was 2.26 and 2.23 kilometres respectively. Institutional access to the forests to use forest resources was measured on a five-point Likert scale (1=very difficult, 2=difficult, 3=average, 4=easy, and 5=very easy). The results show that it is difficult for project and non-project villages alike (mean values of 2.15 and 2.23). Similarly, the density of forests, as perceived by the respondents, was also measured and there was no significant difference found between

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[6] For details on forest use, see Chapter 4.

the respondents of project and non-project villages. Although the perceived density of forests was higher in the case of project villages than that of the non-project villages, this difference was not statistically significant.

Perceived trend of illegal cutting: The other indicator of impact assessment, identified through a survey of stakeholders' concerns, was the extent of illegal cutting. The perceptions of the respondents regarding illegal cutting (by the concerned villagers and outsiders) over the last 5 years were recorded using a 5-point Likert scale (1=decreased a lot, 2=decreased a little, 3=remained same, 4=increased a little, and 5=increased a lot), and the results are shown in Table 1.

Table 1   Perceived change in forest cover during the past 5 years

	Village	N	Mean	t-test t	Sig
Illegal Cutting (by outsiders)	Project	200	2.65		
	Non-project	200	3.66		
	Both	400	3.16	-10.09	0.00**
Illegal Cutting (by villagers)	Project	200	2.97		
	Non-project	200	3.97		
	Both	400	3.47	-10.48	0.00**

*(** differences are significant)*

The results show a significant reduction in illegal cutting (by outsiders), i.e. illegal cutting by outsiders in the project villages decreased whereas it increased significantly in the non-project villages. Similarly, illegal cutting by villagers increased in the non-project villages, while it decreased in the project villages. This indicates a positive impact of participatory forest management. The significant difference between the responses of project villages and non-project villages indicates that awareness and a sense of ownership were being created among the local people (in areas where FSP activities were going on).

b) Land

Land is an important natural capital for people living in rural areas (DFID, 2001). Agriculture and livestock are the subsistence-oriented livelihood strategies of people living in and around the forests of NWFP (Shahbaz and Ali, 2006). Information regarding land and its uses was collected from the respondents to find out whether participatory forest management had had some impact on land use. A majority of the respondents in the project and non-project villages said that they were farmers. Most of the respondents cultivated their own land. Very few respondents in the project and non-project villages said that they grew crops on forest land (as encroachment). The respondents were also asked to give the area of the arable land they owned (see Figure 4).

Figure 4   Area of arable land (own survey)
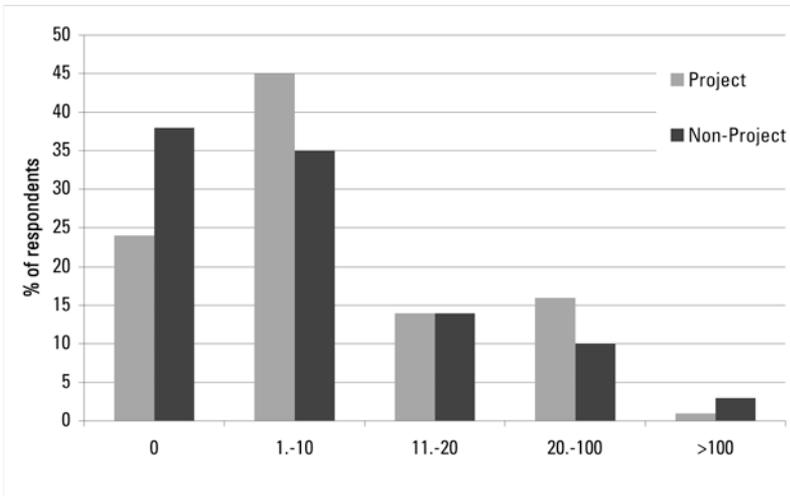
Arable land is scarce in mountainous areas as the figure shows. Most owned less than 10 kanals (one kanal is 1/8th of an acre) of land, while very few households had more than 100 kanals of land. The average

distance of the arable land from the respondents' houses in both types of villages was less than one kilometre.

There are two main cropping seasons, viz "Rabi"[7] and "Kharif"[8]. Wheat is the major "Rabi" crop, while maize and rice are the major "Kharif" crops. The average yield per "kanal" was very low for most crops. Maize, wheat and rice were mainly grown for subsistence purpose rather than to be sold, since the major part of these crops were consumed within the household. Relatively few respondents grew fruit. The main types of fruit in the areas were apples, peaches and persimmons.

c) Water

Water is an essential natural capital (Gottret and White, 2001), which is used not only for drinking and washing purposes but also for irrigation. FSP interventions were meant to not only improve forest management but also to contribute to infrastructure development in the project villages. Access to drinking water was therefore identified by stakeholders as an indicator for impact evaluation. Although, under the FSP, some water supply schemes were completed in a few villages, qualitative interviews revealed that most of the people of the project villages were not very satisfied because the water supply schemes were limited to a few hamlets in the village and most respondents had no access to piped drinking water. Most of the respondents were using the water from the open stream for drinking purposes. There are many small streams in the mountains and these streams had an abundance of water during the rainy season. Constructing small dams on these streams and supplying drinking water through pipes can solve the problem of scarce drinking water.

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[7] The sowing season is in October-December with harvesting in April-May.

[8] The sowing season is in April-June with harvesting from October to December.

Results about people's access to irrigation water revealed that the majority of respondents who farmed were dependent on rainwater to irrigate their fields, whereas about 25% of those respondents who farmed said that they used either river or stream water for irrigation. Nevertheless, rainwater was not sufficient to meet their requirements. During the key informant interviews with the farmers in Mansehra district, the respondents said that their area receives plenty of rain during the monsoon season (July-August), but most of the rainwater goes into the rivers. They suggested that if the government helps them to build small dams where the rainwater could be stored and used for irrigation during the water-scarce months, then the yield of their crops and fruits could be many times higher.

3.2.2   Social assets

The term 'social capital' describes the social resources people draw on in the pursuit of their livelihood objectives. Social capital comprises relations of trust, reciprocity, common rules, norms and sanctions, and connectedness in institutions (DFID, 2001). These are developed through networks, membership of more formalized groups, and relationships of trust, reciprocity and exchanges (Pretty and Ward, 2001; and Larson and Ribot, 2004). The literature on trust (Pretty and Ward, 2001) suggests that trust is a way of reducing insecurity and vulnerability in the relationship between different actors, be it between the state and citizens or among different actors. Participatory or joint forest management seeks to develop partnerships between the stakeholders, particularly between the local communities and the state, to manage forests sustainably on the basis of friendly relationship and trusts (Shahbaz et. al., 2008). Therefore trust and friendly relationships of respondents with various institutions and individuals were selected as an indicator to evaluate the impact of participatory forest management on social capital (DFID, 2001; and Gottret and White, 2001).

a) Trust and relationship

A Likert scale (1=very low, 2=low, 3=average, 4=high, and 5=very high) was used to quantify respondents' perceptions about trust and relationships. Various local and state institutions and individuals were selected to analyse the degree of trust and the extent of friendly relationships of the respondents towards these institutions. The responses of the respondents from project and non-project villages were compared by applying the t-test. The data is presented in Table 2.

A high level of trust and a good relationship between the respondents and their neighbours and relatives is clear from the table. However, the trust towards other tribes was only slightly above average. No significant differences in the reported level of trust and of relationships with neighbours, relatives and fellow villagers were found between project and non-project villages. Significant differences were found between the trust and relationship the respondents of project villages showed towards other tribes and that shown in non-project villages. The qualitative data revealed that this was due to the VDCs created (by the communities) to manage the forests. Various tribes are represented in these institutions and the VDCs' regular meeting increased harmony among different tribes (see Chapter 7 for detailed analysis).

The perceived level of trust and the relationship of respondents towards state institutions (forest department, police and courts) were low. The respective mean values for perceived relationships and trust towards the forest department indicated that, in the project villages, it was below average whilst in the non-project villages it was extremely low. Nevertheless, significant differences in the reported means of project versus non-project villages indicate the positive impact of participatory forest management. This finding endorses the views of previous researchers (for example Malla, 2000; and Shackleton et al., 2002) regarding the increased interaction of state actors and local communities (for qualitative information, see Chapter 7).

Table 2   T-test to compare social capital (own survey)

		Project	Non Proj.	Sig. (2 tailed)
Neighbours	Relationship	3.86	3.76	0.211
	Trust	3.81	3.86	0.578
Relatives	Relationship	3.93	3.9	0.681
	Trust	3.94	4.02	0.271
Other Tribes	Relationship	3.48	3.22	0**
	Trust	3.41	3.19	0.007**
Forest Dept.	Relationship	2.72	1.96	0**
	Trust	2.44	1.6	0**
Jirga	Relationship	3.58	3.57	0.904
	Trust	3.47	3.38	0.35
Police	Relationship	2.13	2.13	0.957
	Trust	1.95	1.96	0.958
Courts	Relationship	2.12	2.29	0.448
	Trust	2.21	2.08	0.182
UC	Relationship	3.28	2.98	0.002**
	Trust	3.11	2.79	0.002**
MPA	Relationship	2	1.82	0.053
	Trust	2.14	1.78	0**
MNA	Relationship	1.82	1.66	0.061
	Trust	1.97	1.65	0.001
Political parties	Relationship	1.87	1.79	0.399
	Trust	1.95	1.73	0.015

**The difference is highly significant

The level of the relationship and trust of the respondents towards police and courts was calculated to be low. The information given in Table 2 also revealed that the "jirga" enjoyed more trust of the villagers (compared with state institutions). Similarly, the level of the relationship of the respondents towards members of "jirga"[9] was above average for both the project and non-project villages.

The perceived level of trust in and relationship with various political institutions (Table 2) indicated that the respondents showed little trust and friendship towards political parties, members of provincial assembly (MPA), and members of the national assembly (MNA). The trust in and relationship with the members of the Union Council (UC)[10] was calculated as about average for non-project villages and slightly above average for project villages. Significantly, there was higher trust in and a better relationship with UC in the project village. Respondents (in the project villages) reported significantly more trust in and a good relationship with their councillors compared to respondents from non-project villages. The qualitative data (Chapter 7) revealed that this higher trust of respondents in project villages in the UC was due to the joint forest management and infrastructure development activities between the UC and VDCs.

The important finding that emerged from the data described above is the indications of the positive impact of participatory forest management. This finding supports the views of previous researchers (for example Malla, 2000; Shackleton et al., 2002; Miyuki and Boonthavy, 2004; and Ribot, 2004) on increased interaction and trust between stakeholders in the context of participatory forestry.

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[9] "Jirga" means council, assembly or meeting in the Pushto language. It may also refer to a community council of elders. The "jirga" is normally composed of elderly males and most of them belong to the dominant tribes of a village.

[10] The union council is the lowest tier of the local government system and composed of five to seven villages.

b) Participation and perceived performance of local institutions

The extent to which respondents participate in local institutions ("jirga" and UC) and the perceived performance of these institutions were also identified as indicators to measure the impact of institutional changes on social capital. Participation was measured on a 5-point scale (1=very low, 2=low, 3=average, 4=high, and 5=very high), and performance was also measured on a Likert scale (0=dead, 1=very inactive, 2=inactive, 3=active, and 4=very active). The data revealed that participation in "jirga" was above average, while performance-wise it was also rated as active. No significant difference was found between the responses from project vis-à-vis non-project villages.

The extent to which respondent households participate in the activities of the UC (interaction with the councillors, participation in the developmental activities) were recorded to be low, as was the perceived level of participation in UC activities by the fellow villagers of respondents from both types of villages. However, significant differences were found regarding the reported means of project and non-project villages, as people from project villages reported comparatively better levels of UC participation and performance compared to people from non-project villages. The qualitative data (see Chapter 7) revealed that project villages' higher participation in the activities of UC was due to the joint forest management and infrastructure development activities of UC and VDCs.

c) Collective action

People have engaged in collective action for as long as they have managed natural resources. This type of collaboration has been institutionalised in many forms of local association, norms and institutions, etc. (Pretty and Ward, 2001). Collective action is also one of the indicators of social assets to assess the impact of an intervention (Gottret and White,

2001). In this regard, the respondents were asked what proportion of villagers would be willing to contribute (in cash or labour) to the common development activities. The data indicated that respondents from the project villages reported that more than half or even everyone would contribute towards the development activities as compared to the non-project villages. This was due to the motivation given by the newly created institutions (VDCs) in the project villages. It can be concluded that the project interventions (participatory approach to forest management) had considerably enhanced the potential of collective action in the project villages.

Figure 5 shows the percentage of respondents (or their family members) who contributed to the common development/welfare activities.

Figure 5   Respondents' contribution to common activities in % (own survey)
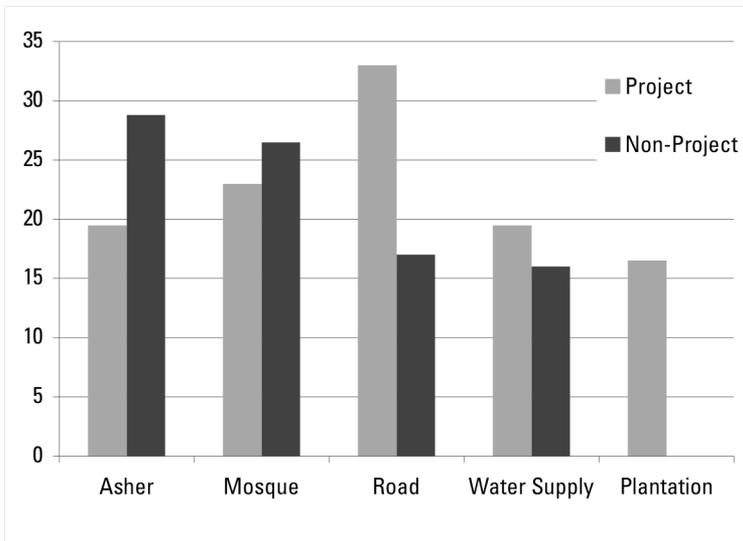
The involvement of more respondents (or their family members) from the project villages in road construction and plantation activities compared to people from the non-project villages was due to the motivation and stimulation by the new institutions created through the participatory forest management approach introduced by FSP. Those respondents (or their family members) who contributed towards various activities (collective action) were asked who motivated them for such activity?. In the project villages, the VDC was the main stimulus motivating people to take part in road construction activities.

As for the planting of new trees (by the local people), the sole motivational force in the project villages was the VDC while no planting was done at all by people from the non-project villages. Those respondents who contributed to improving the water supply in their respective villages were asked to indicate the 'motivating force' behind this. The majority of respondents from non-project villages who voluntarily took part in this activity said that the "jirga" asked them to work for the water supply scheme, while fewer respondents from the project villages gave the "jirga" as their reason.

The results regarding collective action confirmed the findings of some previous researchers (Malla, 2000; Shackleton et al., 2002; Miyuki and Boonthavy, 2004) that participation in forest management activities increased awareness about the value of collective action in natural resource management and mutual assistance.

3.2.3 Physical assets

Physical assets include privately owned assets that can be used to increase labour and land productivity (such as farm animals, tools and machinery), publicly owned economic infrastructure (roads, electricity etc.) and social infrastructure (schools, hospitals, etc.) (DfID, 2001). JFM may involve direct investment in community assets such as roads, dug wells, tube wells and hand pumps through entry point activities (Pan-

day, 2005). Various indicators of physical assets are compared below for project vis-à-vis non-project villages to evaluate the impact.

a) Houses

A house is one of the most important physical capitals. The results showed that a majority of respondents were living in their own houses, while a very small number were living in either rented or rent-free houses. The results indicated that wood was the most important construction material for houses. The qualitative observation revealed that even if the house is built of of bricks or mud-stone, most of the roof was made of wooden logs; similarly the doors and windows were made of wood. No significant differences were found between project and non-project villages regarding house possession and the type of houses.

b) Educational institutions

The distance to and the quality and accessibility of educational institutions are identified as indicators for impact evaluation (Gottret and White, 2001). The distance (from the houses of the respondents) to different educational institutions is given in Figure 6.

It is obvious from the figure that higher education institutions (colleges) were located far from most of the villages. The qualitative interviews revealed that the long distance to the colleges was one reason for the lack of higher education among the rural youth. Similarly, due to the girls' school being located far from the village, most girls could not study beyond primary school level (five years of schooling). This finding endorses the results of Steimann (2004), who concluded that a lack of adequate schooling facilities for girls, who often have to leave school after primary level, was the main reason for the low literacy rate in the mountainous areas of NWFP.

Figure 6 Distance of educational institutions from respondents' houses (own survey)
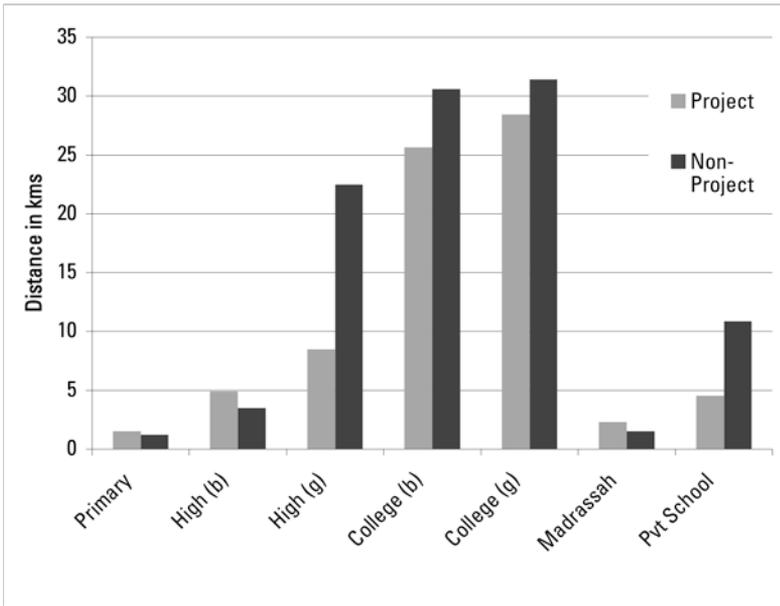
The qualitative observations and interviews confirmed that the quality of educational in schools, particularly in the non-project villages, was very poor. The researcher visited most of the primary schools and in most cases there was either no teacher available or there were only one or two teachers in the whole school. An "imam masjid" (the one who leads prayers in the mosque) from a non-project village reported that "the teacher of our primary school belongs to the neighbouring village. He comes only one or two days a week to teach lessons to the students. He forces the children to do his personal jobs such as cutting grass for his cow, etc.…" A school teacher from one of the project villages reported: "… I keep my school neat and clean because every month people gather in our school to discuss the problems of our village. I also advise the students to be punctual and to take an interest in their studies."

The qualitative remarks mentioned above indicate a poor quality of education in the study villages due to a lack of interest from the teachers. However (as the last remark indicates) in one of the project villages where the meeting of VDC are held in the schools, the teachers have to be more vigilant.

c) Health/medical institutions

The average distance to the basic health unit (BHU) was less than 4 kilometres, but the distance to the government hospital and to a private doctor's was about 25 and 20 kilometres respectively. Respondents had a poor to average perception of the quality of these medical institutions, but no significant difference was found between the reported means in project and non-project villages.

d) Energy

The results for respondents' main source of fuel indicate that a majority of respondents from both project and non-project villages used wood for cooking and heating purposes. Most of the respondents had electricity in their houses. The qualitative observations revealed that most of the respondents were using electricity to light their houses or to power electronic appliances, and an insignificant number of people were using electricity to heat and cook due to its high price. Significantly more respondents in the non-project villages had electricity in their houses than in the project villages.

Of those respondents with electricity in their houses, most were of the opinion that the quality (service) of the electricity was low, while an insignificant number of respondents perceived the quality of electricity to be very high. Some typical remarks made by respondents were:

> *"………. there are eight to ten hours of load-shedding every day, we are getting sick of this situation". "whenever there is rain or a thunder-storm, there is power breakdown and we have to wait for hours for the resumption of the power". "…….. the prices [of electricity] are increasing day by day while the load-shedding and power breakdown is also increasing". "………. the line-man (*the official who takes care of the elec-tricity system*) is very sluggish. Even if there is a minor fault, he sometimes takes days in the repair of this………". "….the lineman belongs to our neighbouring village and always takes care for his own village, but never listen to us. He is a gov-ernment employee and his duty is to ensure con-tinuous supply of electricity but he is not perform-ing his duties efficiently. The WAPDA [Water and Power Development Authority] officials also listen to their friend or influential persons".*

It was interesting to note that higher numbers of respondents from non-project villages rated the quality of the electricity as high than respondents from the project villages. This was due to the fact that in one of the non-project villages (Gibral-utror), the villagers had developed their own electricity generation project. The fast-flowing waters of the river was diverted down a wooden channel and used to power an electrical generator. The electricity produced was sufficient for about 50-60 houses. The villagers in this particular village enjoyed a free and continuous supply of electricity. Many households also heated their houses during the winter with this free electricity, thus reducing the pressure on the forests. As a result the condition of the forests around that village was quite healthy compared to around the other study villages. In the villages where the people used state-supplied electricity, the respondents were dissatisfied and frustrated about the quality of the electricity (due to long breakdowns) and higher prices; and this situation was the same for project and non-project villages.

d) Roads

Communications, particularly road communications, are important for the development of marginal and fragile areas. Access to motorized transport has the potential to broaden economic options. However, the most remote and disadvantaged members of South Asian societies are often those least able to afford motorized transport and to benefit from road provision (Molesworth, 2001).

The distance (in kilometres) of the nearest road from the houses of the respondents was recorded, and it was revealed that most of the respondents from both types of villages had a "Kacha" (unpaved) road near their houses (less than one kilometre away). The results indicate that people in the project villages had better access to paved ("pucca") roads since the road was within 4 kilometres of their houses, whereas the average distance from their houses to a paved road for respondents from non-project villages was about 8 kilometres. The t-test regarding the availability of and distance to a "pucca" road is given in Table 3. The availability was measured on a three-point Likert scale (1=decreased, 2=remained same and 3=increased).

Table 3   t-test regarding availability of and distance to "pucca" road (own survey)

	Project	Non Project	t	Sig.
Availability (during the past 5 years)	2.26	2.08	3.684	0.000*
Distance (kilometres)	3.46	8.51	-6.67	0.000*

It is evident from the above table that the mean value for the availability of a road for the project villages was 2.26 (increased slightly) while that of non-project villages was 2.08 (remained same), and significant differences were found between the perceived responses of the two sets of

population. Similarly, significant differences were found regarding the distance of a "pucca" road from the respondents' houses in project as compared to non-project villages.

The qualitative observations revealed that the roads from the main city to the nearby towns were in quite good condition, but the condition of the roads (mostly "kacha" roads) from these towns to the respective villages was miserable. Considerably higher numbers of respondents from the project villages rated the quality of the paved ("pucca") road as high than did respondents from the non-project villages, because the VDCs had built new roads in the project villages.

Taking the overall results (regarding physical assets), it can be concluded that the project interventions have brought improvements in terms of the quality and accessibility of roads and educational institutions (primary school) in the project villages. However the other indicators of physical capital have remained unchanged.

3.2.4 Human assets

Human capital in the SLF is a livelihood asset consisting of people's education, knowledge, skills, and information (Mayers and Vermeulen, 2002) that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. At a household level human capital is a factor of the amount and quality of labour available; this varies according to household size, skill levels, leadership potential, health status, etc. (DfID, 2001). JFM is expected to contribute directly to enhancing human capital through education, training and providing better medical facilities with the help of medical camps and dispensaries (Belcher, 2005).

a) Human resources

Common indicators designated by researchers (for example Marriott, 1997; Miyuki and Boonthavy, 2004) to measure human capital are fam-

ily size, education, school enrolment, and the health status of the respondent's family members (Gottret and White, 2001).

The results for household[11] composition indicate that family size varies from as low as one member per household to 24 members. The average family size was large: 9.53 persons per household in project villages with 5.02 males and 4.51 females; and 9.42 persons per household for non-project villages with 4.79 males and 4.63 females. No significant differences were found in family size between respondents from project and those from non-project villages. This shows the homogeneity of both types of villages as regards family structure.

The adults were classified as all family members aged 15 and above, while those aged between six and 15 years were classified as children; children below six years of age were classified as kids. No significant differences were found in the family structure between the project and non-project villages. Large families (more than nine persons in a single household) were due to the joint family system in the rural areas of Pakistan in general and NWFP in particular. The qualitative observations revealed that most respondents were living under the joint family system and usually the eldest male member of the family was the head of the household.

b) Formal education

The educational level of the adult members (age 15 years and above) of the respondents' households was measured in terms of the number of years they had spent at school. The data presented in Table 4 shows a high level of illiteracy, especially among females.

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[11] I defined a household as a family unit living under common economic arrangements such as sharing a common kitchen, etc.

Table 4   Educational status (years of schooling) of the adult members of respondents' families (own survey)

Village Sex School attendance	Project				Non Project			
	Male		Female		Male		Female	
	f	%	f	%	f	%	f	%
never attended	224	18.5	412	34	210	18	411	35.2
1-5 years	116	9.5	78	6.5	84	7.2	70	6
6-10 years	251	20.7	37	3	242	20.8	52	4.5
more than 10 years	75	6.3	18	1.5	89	7.6	9	0.7
Total	666		545		625		542	
Grand Total	1211				1167			

There were fewer females than males in both types of villages who had received more than six years of formal schooling. High illiteracy is one of the main obstacles to gender mainstreaming in the rural areas of NWFP (Siegmann and Sadaf, 2006). The overall adult literacy level was less than 50 percent in both project and non-project villages. This is well below the national average of 53.3 percent. There were no considerable differences found in the adult literacy level between the project and non-project villages.

The data regarding school enrolment of children between the ages of 6 and 15 indicated that there were 456 and 498 children in the project and non-project villages respectively. In the project villages, more than 38% of male children were going to school at the time of data collection; whereas in the non-project villages about 32% of the male children were attending school. 25.9% and 32.6% of female children in respondents' families in project and non-project villages respectively did not go to school.

The qualitative observations and interviews painted a disappointing picture in terms of school enrolment, particularly for female children. The main reasons for this situation, as given by the key informants,

were the fact that the girls' schools (particularly high schools) was a long way from the village, local customs, and poverty. The qualitative interviews also revealed that most of the respondents were not satisfied with the quality of education at the government school, but they had no other option except to send their children in the government schools as these charged lower fees than private schools.

c) Health status

The respondents were asked to rate the health status of each of their family members on a five-point Likert scale (1=very bad, 2=bad, 3=average, 4=good, and 5=very good). No significant differences were found between the perceptions of the respondents from the project and the non-project villages. Most of the respondents rated the health of their family members as good, although the perceived health of female family members was lower than for male family members. The overall health status of the vast majority of respondents' family members was good (as perceived by the respondents themselves). The qualitative interviews revealed that eating simple food, a clean and unpolluted environment, natural spring water, and a lot of walking on the mountainous tracks were some of the main reasons for the good health of people living in these mountainous areas.

However, the perceived good health status should not be considered as an indicator of better health facilities in the mountain areas. As has already been shown above, the health facilities in these areas were inadequate and of very low quality. Other quantitative indicators such as infant mortality, average age, prevalence of diseases, etc. may be taken by other researchers in the future to measure the health status of the forest dwellers.

3.2.5 Financial assets

Financial capital denotes the financial resources that people use to a-chieve their livelihood objectives and it may include cash (income and savings) and readily convertible liquid capital. Of the five categories of assets, financial capital is probably the most versatile as it can be converted into other types of capital or it can be used directly to attain livelihood outcomes (DFID, 2001). Joint forest management is expected to increase earnings through the sale of products obtained from the forest and of agricultural products, and also by sale of products from employment-generating activities (Belcher, 2005). The indicators for financial capital are household income per capita, income sources (Gottret and White, 2001), access to savings and expenditure patterns.

a) Sources of cash income

Respondents were asked to specify their various sources of income (income-generating activities). The source contributing the largest share (or more than 50%) of the household budget was designated as the primary (main) source, while the second most important source was designated the secondary source, and similarly the tertiary source of income. Table 5 presents the data regarding the sources of cash income in the respondents' households.

Table 5 Sources of cash income (own survey)

Village	Project		Non-Project	
Number of sources	F	%	f	%
one	91	45.5	95	47.5
two	76	38	81	40.5
three or more	33	16.5	24	12
Total	200	100	200	100

Most of the respondents from the project and non-project villages said that they had only one source of cash income. There were fewer households in both the project and non-project villages that had more than two sources of income. It can be seen from the above table that there was no considerable difference between the number of income sources of respondents' households in the project and non-project villages.

The overall annual income (average) of the respondents in the project villages was Rs. 92,730 (US$ 1,571). As the average family size of the respondents in the project villages was 9.53, the per capita annual income was therefore only Rs 9,730 (US$ 165) per year. The per capita income for the non-project villages was only Rs. 11,250 (US$ 190) per year. The income of the respondents' households in the project villages was slightly lower than that in the non-project villages, which indicates that the project intervention did not increase the income of the local people.

b) Savings and access to loans

The respondents were asked whether they had savings and (if their response was affirmative) how they kept their savings. The data indicated that the majority of respondents from the project as well as non-project villages did not save any money from their income. Among those who did have some savings, livestock, cash and investments in business were some of the main ways of investing these savings. There were very few respondents who kept their savings in banks or who purchased jewellery or a piece of land. It can therefore be concluded that most of the respondents in both types of villages could not save any money, and a majority of those who did have savings kept their savings in the form of cash or livestock. It can further be concluded that there were no significant differences between the saving patterns of respondents in project and in non-project villages.

A large number of respondents received loans for their household needs. The respondents who had received a loan were asked about the source of the loan. The data (see Figure 7) revealed that shopkeepers and relatives were the most important sources of loan.

Figure 7   Sources of loans (own survey)
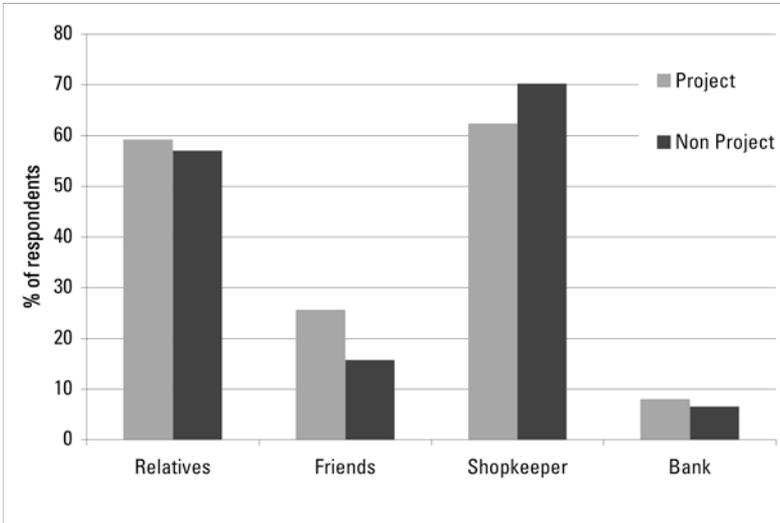
The qualitative interviews revealed that respondents often purchased daily food items and groceries, etc. from shopkeepers on credit and paid them back at the beginning of each month. Relatives and friends were other important sources of loans. The main uses of loans made by relatives and friends were to marry their children, to pay for medical treatment for family members, and to make repairs to houses. There were fewer respondents who had taken out a loan from a bank.

During qualitative interviews, the respondents said that it is very difficult to get loans from banks. Some of the excerpts from the qualitative data are given below.

"I have just four kanals of arable land, and the Agricultural Bank is not ready to give me the loan" a farmer of Phaagal village told. "… I have 4 acres of land where I grow persimmons and peaches but the quality of my land is decreasing day by day and I get lower yield as compared to my fellow farmers. I want to add fertilizers in my land but I cannot afford it because the profit from my crops is not sufficient enough to meet my household expenditures. If agricultural bank can provide me loan on easy conditions for the purchase of fertilizers and pesticides then I can get better yield from my crop. But I cannot read or write and I am a poor man. Here government facilities such as bank loans are available for powerful and rich but the powerless and poor are ignored."

b) Expenditure patterns

The monthly expenditure (under different heads) of respondents' households in the project and non-project villages were also recorded. The respondents reported that the major part (about 60%) of household income was spent to purchase food items, while about 12% of income was spent on health (medical treatment) and only 6% on education. About four percent of income was spent on "Rivaj" (traditional customs, for example expenses for marriages, deaths, hospitality, etc.).

The above results indicate that respondents allocate a major share of their expenditure to pay for food, medical treatment and fuel wood, while they spend less on goods and services that constitute an investment in physical and human capital such as education and housing. The expenditure patterns also give some idea of the vulnerability of the poor to income and price shocks, for example food and fuel prices. In other words, any negative change in income or an increase in food prices might have a negative impact on food consumption and medical care.

Average expenditure on fuel (wood) was between 6-7 percent of income. The qualitative interviews revealed that fuel wood was generally collected from the forest (mostly free of charge or by giving some money to the forester), but during winter the respondents had to buy the fuel wood from the market due to heavy snowfall and a scarcity of fuel wood.

3.3   Vulnerability context

The vulnerability context encompasses the external environment in which people exist. People's livelihoods and the wider availability of assets are fundamentally affected by critical trends as well as by shocks and seasonality – over which they have only limited or no control. The factors that make up the vulnerability context are important because they have a direct impact on people's asset status and the options that are open to them in their pursuit of beneficial livelihood outcomes (DFID, 2001).

Within the sustainable livelihoods framework, the relationship between (access to) livelihood assets and the vulnerability context is particularly close (see Chambers and Conway, 1992).

3.3.1 Forests and other natural resources

The impact of institutional changes on the vulnerability of the forest dwellers in NWFP was analysed by selecting various indicators of vulnerability related to various livelihood assets, and comparing the qualitative and quantitative data obtained from the respondents in project and non-project villages. People's perceptions of trends in various natural factors during the past five years was measured on a five-point Likert scale and the data is shown in Table 6.

Table 6 Perceived trends in various natural factors during the past five years (own survey)

	Village	Mean	S.D.	t-value	Sig
Forests	Project	2.22	0.92		
	Non-Project	1.66	0.63		
	Mean	1.94	0.84	7.081	0**
Forest fires	Project	2.78	0.81		
	Non-Project	2.98	0.95		
	Mean	2.88	0.89	-2.267	0.024*
Crop pests & dis-eases	Project	3.57	0.67		
	Non-Project	3.68	0.7		
	Mean	3.62	0.69	-1.605	0.109
Livestock diseases	Project	3.64	0.67		
	Non-Project	3.74	0.67		
	Mean	3.69	0.67	-1.566	0.118
Rain/snow	Project	2.06	0.82		
	Non-Project	2.35	0.87		
	Mean	2.2	0.86	-3.493	0.001**
Soil quality	Project	2.62	0.81		
	Non-Project	2.65	0.76		
	Mean	2.63	0.78	-0.383	0.702
Water resources	Project	2.39	0.81		
	Non-Project	2.47	0.74		
	Mean	2.43	0.78	-1.032	0.303

It is evident from this table that the forests decreased in both types of villages, but the trend of forest depletion was significantly higher in the non-project villages. Similarly the trend of forest fires remained almost the same in the non-project villages and it had been on a downward trend in the project villages. These differences were significant when the t-test was applied. Significant differences between the responses in

project versus non-project villages (regarding forest depletion and forest fires) indicate that the participatory forest management approach reduced the factors of vulnerability related to the forest (forest fires, rate of deforestation). These results endorse the findings of some previous researchers (for example Malla, 2000; Shackleton et al., 2002; Springate-Baginski et. al., 2003) regarding the potential of a participatory approach to sustainable forest management.

It can also be seen from Table 6 that there was a perception that crop and livestock diseases were on the increase in both project and non-project villages. Similarly, according to respondents, rain/snow, soil quality and water resources all decreased over the past five years. There were no significant differences to be found between the perceived means of the responses from project and non-project villages regarding crop pests and diseases, rain/snow, soil fertility, and water resources.

3.3.2 Conflicts

Conflicts increase vulnerability (DFID, 2001) and a decrease or increase in conflicts is an important indicator to assess the impact of natural resource management projects (Gottret and White, 2001). Table 7 indicates the perceived trend in conflicts over the past five years, measured on five-point Likert scale. Significant differences between project and non-project villages were found in the perceived trend of conflicts over various issues such as land, forests, political and tribal questions (Table 7). In the project villages, conflicts over various issues were on the decrease, while in the non-project villages the perceived trend of conflicts over various issues remained the same.

Table 7   Perceived trends of various conflicts during the past five years

	Village	Mean	S.D.	t-value	Sig
Conflicts over land	Project	2.82	0.66		
	Non-Project	3	0.67		
	Mean	2.91	0.67	-2.695	0.007**
Conflicts over forests	Project	2.81	0.61		
	Non-Project	3.02	0.74		
	Mean	2.91	0.68	-3.102	0.002**
Political conflict	Project	2.86	0.53		
	Non-Project	3.13	0.5		
	Mean	2.99	0.54	-5.293	0**
Tribal conflicts	Project	2.85	0.52		
	Non-Project	2.99	0.57		
	Mean	2.91	0.55	-2.559	0.011**

3.4   Livelihood outcomes

Livelihood outcomes are the results people are seeking to achieve through their livelihood strategies. They are likely to vary according to place, time, context and the individual. Investigations into livelihood strategies tend to focus on income sources. However, this aspect of the SLF goes well beyond income, and it is important not to neglect other considerations (DFID, 2001). To have an idea about the livelihood outcomes of the respondents, they were asked about their preferences regarding "good living". The responses are presented in Table 8.

Table 8   Perceptions of respondents regarding good living

Village	Project		Non Project	
What is good living?	f	%	f	%
More and regular income	68	34	75	37.5
Sufficient food	48	24	45	22.5
Good health	30	15	26	13
Faith in God and religion	14	7	20	10
Education for the children	19	9.5	12	6
Good house	5	2.5	8	4
Better physical infrastructure	11	5.5	10	5
Miscellaneous	5	2.5	4	2
Total	200	100	200	100

Higher or additional (and regular) income was perceived as "good living" by a majority of the respondents in both the project and non-project villages, while 24 and 22.5 percent of the respondents respectively said that if their family members had sufficient food, this meant that they were living a good life. Better health and better education were also perceived livelihood outcomes of the respondents. Seven percent of the respondents from the project villages and 10 percent of the respondents from the non-project villages said that if they had faith in God and prayed five times a days, this meant that they were living a good life. It is interesting to note that none of the respondents quoted better forests as an indicator of good living, however some respondents did mention better physical infrastructure (roads, electricity etc.) as the most important indicator of good living. It can also be seen that the perceptions of the respondents from project and non-project villages regarding 'good living' were almost similar

The respondents were also asked to give their definitions of "poverty". For most respondents from the project (37%) and non-project (34%) villages, poverty meant that a person (or household) had insufficient

and irregular income to cover their daily expenditure, while 19.5 and 16 percent of respondents felt that unemployment and poverty were synonymous. Significant number of respondents perceived bad health or insufficient food to be the most important indicator of poverty.

3.5   Summary

This chapter has outlined the livelihood realities of the respondents and their access to livelihood assets in the perspective of JFM. We have seen that, in the case of most of the indicators, there were no major differences between the project and non-project villages. Although some infrastructure activities (such as road construction and drinking water schemes) were carried out by the projects, the qualitative interviews revealed that most of these schemes were accomplished in the parts of the village where the influential people (such as the president and secretary of the VDCs) lived. Access to and the availability of educational and medical facilities, roads, water and financial institutions (banks), etc. was poor. The priorities of respondents were to ensure their own food and financial security (Table 8). Nevertheless, forests are important natural capital for people living in mountain areas. The next chapter therefore explicitly explores the role of forests in respondents' livelihoods. A qualitative analytical description of the data presented in this chapter and the links between livelihood outcomes and access to livelihood assets and institutional changes are then given in Chapter 7.

4 The Role of Forests in Rural Livelihoods

> *"Hundreds of millions of people in Asia and the Pacific continue to live below the poverty line, including in the largest countries with the fastest growing economies. A significant number of rural poor people live in forests or depend on forests in whole or in part for their livelihoods." (FAO, 2007)*

4.1 Forest area and types in NWFP

Forests, scrubs or trees planted on farmland cover about 4.22 million hectares (ha) in Pakistan, which is 4.8% of the total land area (Govt of Pakistan, 2005). There are a great variety of tree species because of the country's great physiographic and climatic contrasts. The important forest types are: 1.92 million ha of coniferous hill forests (46% of the total forests); 1.19 million ha scrub or foothill forests (28% of the total forests); 0.103 million ha of irrigated plantations, 0.466 million ha of farmland trees, 0.173 million ha of riverside; 0.207 million ha of mangroves in the delta of Indus river; and 0.161 million ha miscellaneous plantations. The total forested areas of different provinces and territories of Pakistan viz. Punjab, North West Frontier Province (NWFP), Sindh, Balochistan, Azad Kashmir and Northern Areas are 0.608, 1.684, 0.40, 0.59, 0.275, and 0.666 million hectares respectively (Siddiqui, 1997). This shows that most of the country's forests are to be found in the north of the country (40 percent in NWFP, 15.8 percent in Northern Areas and six percent in Azad Kashmir). Eighty per cent of the forests in Pakistan are naturally distributed in the Himalayan, Karakoram and Hindu Kush mountain ranges.

NWFP is the richest province in Pakistan in terms of forests as its per capita forest area (0.09 hectares) is three times higher than the national average. Here the forests are distributed over the Himalayas, Karakoram and Hindu Kush mountain regions. These mountain areas consist of many valleys with arable land in the valley bottom and on the lower slopes, followed by scrub and/or coniferous forests on the upper valley slopes, and alpine pastures on the ridges (Qazi, 1994). The main types of forest in NWFP are: coniferous forest (Himalayan moist temperate and sub-tropical pine forests), scrub forest (sub-tropical broad-leaved evergreen forest, mazri forest), and linear plantations and trees on private lands.

The mountain forests of NWFP are great repositories of biodiversity. They play a very important role in the economy of mountain people. They are the main source of timber, fuel wood, forage and many non-timber products as well as recreation (Suleri, 2002; and Khan and Mahmood, 2003). These forests protect the country's watersheds, which yield power and water for the large agricultural economy of the rest of Pakistan. Their role in soil conservation, water production, and in regulating stream flow and maintaining the ecological balance far exceeds the direct benefits realised from tangible forest products (Khan and Mahmood, 2003). These forests have four important functions: (i) protection of the natural environment, (ii) production of goods and services, (iii) maintaining the beauty of the landscape (e.g. for future tourism); and therefore (iv) providing income for local people. Forests also provide forage for livestock (FSMP, 1992). A good amount of wood and other biomass is also used as a source of energy in rural industries. The coniferous forests of NWFP are also a major source of construction timber, resin, medicinal plants and wild fruits (Siddiqui, 1997).

4.2   Forests and local livelihoods in NWFP

Agriculture, forestry and grazing are the major land uses in NWFP. Agriculture in NWFP is primarily a small farm activity and the farming community in the province can be categorized into: small farms (less than 5 hectares); medium farms (5-10 hectares); and large farms (over 10 hectares). Small farms account for 41% of the total farming area, medium farms 17% and large farms cover 42% of the total farm area, while representing 5% of the total number of farms (Govt of NWFP, 2005). Forests are an essential part of the daily lives of the rural population living close to the forested areas of NWFP. Communities that make their living from the forests are some of the poorest segments of society, as they are heavily dependent on the natural environment (Durr, 2002). The benefits local people derive from forests include firewood, timber, forest soil, pastures, medicinal/edible plants, and royalty payments. Forests are one of several possible sources of livelihood means for the poor people living in these areas. Recent empirical studies (Awais, 2005; Steimann, 2005 & 2006; Ali et al., 2006) have revealed that fuel wood is of utmost importance for subsistence-oriented livelihoods in the highland areas of NWFP where affordable alternative sources of energy are still lacking. Most of the homes in the high mountain areas are made of wood; therefore, the local people also use forest wood as timber for the construction of new houses or to make repairs to existing houses. However the role of forests in income-oriented strategies is negligible (see Table 9).

4.2.1 Forest-use patterns by local people

The results of the empirical case study regarding usage of forest resources (wood, forest land, medicinal plants etc.) are shown in Figure 8.

The intensive use of forest wood for fuel/heating and timber (for household use) is evident from Figure 8, which shows that about 87.5% of respondents in the project and 91% of respondents in the non-project

villages were using forest wood for fuel and heating purposes. Similarly 70.5% and 74.5% of the respondents respectively in the project and non-project villages used forest wood either to construct new houses or to repair existing houses (when required). Forests were also being used as pasture for livestock by 47 and 50 percent of the households in project and non-project villages respectively. However, insignificant numbers of respondent were using forests for commercial purposes like wood sale, and the use of forest land as "qalang" (the fees that landowners receive from nomads as payment for grazing their lands) and other forest products, while 22 and 24% of the respondents in project and non-project villages said that they extracted medicinal plants for household use only.

Figure 8   Forest-use patterns in the study villages (own survey)
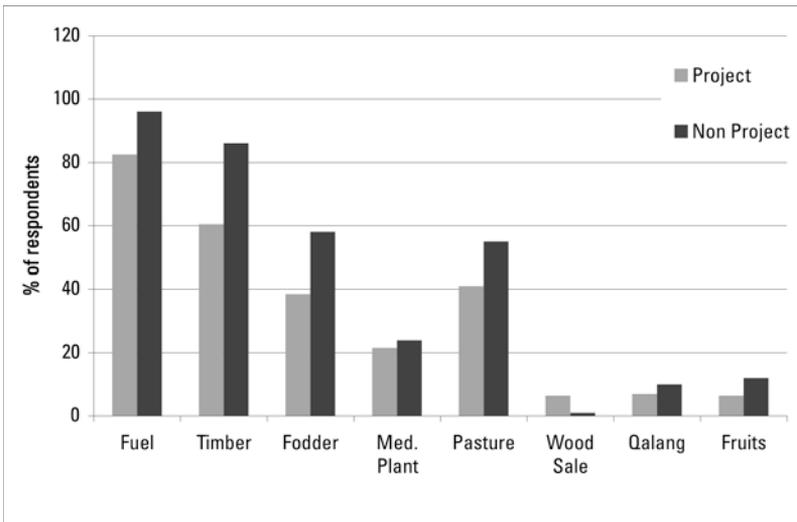
The main construction material for most of the houses in the study villages was wood. Even if the walls of a house were made of mud/stones or bricks, wood was still needed for the construction of roofs, doors, etc. Moreover, free grazing of animals in the forest areas was observed (by the author) as one of the main reasons for the inade-

quate growth and regeneration of new trees. These findings are corroborated by those of some previous researchers (Hussain, 2003; Khan and Mehmood, 2003; and Mehmood, 2003) who concluded that increasing demand for forest wood by the local population for household and other subsistence needs is one of the main 'pressures' on forests of NWFP.

The qualitative observations and interviews revealed that the intensive use of wood as fuel for cooking of food and heating of the houses, was due to the non-availability of alternative sources of energy. Natural gas was not available in all of the villages. There was electricity in most of the villages, but the higher cost of electricity restricted its use for cooking and heating (see also Chapter 3). Similarly the qualitative interviews revealed that kerosene oil and liquid petroleum gas (LPG) cylinders were unaffordable for most of the respondents. The winter season is very harsh with heavy snowfall and the people have no other option than to use forest wood for cooking and hearting purposes.

4.3   Forests as a source of income?

Respondents were asked to identify their main (primary) source of income that contributed to more than fifty percent of their household budget; they then identified their other (secondary and tertiary) sources of cash income. The relevant data is given in Table 9. It can be seen from this table that the primary (major) source of income for most respondents from project as well as non-project villages respectively was labour (daily wage). Remittances received from (male) family member(s) working outside their home district (domestic migrants) were the second most important income source followed by remittances received from family member(s) working outside the country (foreign migrants). Although labour/daily wages was the primary source of income for most respondents in the project as well as the non-project villages, the cumulative sum of the remittances (domestic and foreign) exceeded all

other sources. In other words remittances (domestic and foreign) were the main (primary) contributor to household income. Migration (either domestic or international) was the main livelihood strategy for most of the respondents in project and non-project villages, followed by working for a daily wage.

Qualitative data revealed that most of the migrants were doing minor labouring jobs such as daily wage labour, bus conductor or driver, vendors, etc. in other cities. The most important destination for the migrants of project and non-project villages was Karachi since more than half of the migrants were working in Karachi (the largest city in Pakistan) for sustaining their livelihoods, while Rawalpindi and Mardan respectively were the second most popular destinations for the project and non-project villages.

The respondents were also asked about their secondary and tertiary sources of income. Most of the respondents said that they did not have any secondary or tertiary source of income. Farming, small business and forests were important tertiary income sources.

Table 9 Respondents' primary, secondary and tertiary sources of income (own survey)

| Sources | Primary | | | | Secondary | | | | Tertiary | | | |
| Village | Project | | Non-project | | Project | | Non-project | | Project | | Non-project | |
	F	%	F	%	F	%	F	%	F	%	F	%
None	0	0	0	0	95	47.5	91	45.5	167	83.5	176	88
Farming (crop slae)	19	9.5	34	17	21	10.5	40	20	13	6.5	9	4.5
Small businesses	33	16.5	15	7.5	18	9	12	6	7	3.5	3	1.5
Livestock	5	2.5	4	2	8	4	7	3.5	1	0.5	2	1
Income from forests	7	3.5	1	0.5	7	3.5	5	2.5	6	3	7	3.5
Labour / daily wage	53	26.5	50	25	26	13	15	7.5	0	0	0	0
Salary	28	14	31	15.5	6	3	17	8.5	2	1	1	0.5
Pension	0	0	3	1.5	4	2	4	2	3	1.5	1	0.5
Remitttances												
a) domestic	29	14.5	44	22	9	4.5	7	3.5	1	0.5	1	0.5
b) foreign	25	12.5	17	8.5	5	2.5	1	0.5	0	0	0	0
other	1	0.5	1	0.5	1	0.5	1	0.5	0	0	0	0
Total	200	100	200	100	200	100	200	100	200	100	200	100

The above results indicate that the majority of local people were not dependent on natural resources (forest, land, water etc) for their cash income – contrary to a popular assumption – but had instead adopted diverse non-natural resource based activities such as migration, labour, small business, etc. Nevertheless, forest-use patterns demonstrated that the majority of respondents were dependent on forest wood for their household needs (for example wood for house construction/repair, fuel wood, fodder and pastures for livestock, etc.). It can therefore be argued that the forest resources contributed to local people's subsistence (or non-cash) livelihood strategies. Therefore these results partially contradict the popular assumption that rural people living in and around forests depend on forests for their livelihoods. Instead people have adopted multiple (non-natural resource based) livelihood strategies according to the available assets.

4.3.1 The issue of royalties

Commercial timber harvesting has been banned in NWFP since 1993. Prior to the ban, the right-holders of protected forests were entitled to receive a royalty from the government on sales of forest wood. The protected forests were in the Swat district. The responses of respondents on the subject of this royalty indicated that only 26 and 25 percent of respondents (from Swat district), from project and non-project villages alike, had received any royalties in the past. There were no major differences between the responses of project and non-project villages. The respondents said that they had received their last royalty between 1994 and 1996, and there had been no royalty payments since due to ban on commercial timber harvesting.

In the key-informant interviews, the respondents showed mixed reactions to the ban on commercial timber harvesting. The right-holders (forest owners) criticised the government for the ban and demanded that it should be lifted immediately so that they could receive royalties on the forests. During a focus group interview with the VDC and mem-

bers of the UC of a project village, the "nazim" (head) of the UC demanded that the ban should be lifted immediately otherwise they had decided that they would start cultivating poppies in their fields to earn money.

> "…you can see the trees are being removed illegally every day, and the ban has done nothing but just to increase corruption in the forest department. Then why shouldn't the ban be removed and allow legal timber harvesting, and thus increasing the financial resources for the villagers."
> the "nazim" remarked.

During a round-table discussion organised in collaboration with the Sustainable Development Policy Institute (SDPI), National Centre for Competence in Research (NCCR North-South), and Journalists for Democracy and Human Rights (JDHR), most of the representatives of civil society (NGOs, councillors, local leaders, and forest owners) agreed that the forest had been depleted at a higher rate since the ban. According to a representative of the forest owners, "…when there was no ban, we received the royalty and in return we not only protected our forests from outside intruders but also planted new trees. But after the ban we had no interest in the protection of forests".

The representatives of the NGOs and civil society organisations present in the round-tables strongly criticised the absence of financial and economic considerations in the process of institutional change in the forestry sector. The representative of IUCN argued during round-table conference that

> "If the people of Punjab [and lowland] can pollute the environment through the establishment of the industries to improve their livelihoods [financial capital], then why the people from Hazara and Swat are deprived of the industrialization in the name of the protection of national wealth (forests)… The entire watersheds are in NWFP,

which are very important for the people living in lowlands. The local people should be given benefits (in cash or through some other means) for the protection of tree" he added. The president of a VDC during Swat round-table explained "… it is very difficult for us to motivate people for the protection of the forests without giving them any economic benefits."

The Divisional Forest Officer also admitted that the foremost demand by local communities was for financial benefits, but that the participatory forest management system (in NWFP) had few financial implications, but instead put the emphasis on forest protection and regeneration.

Qualitative interviews with the forest officers revealed that on the one hand, they admitted that the forests had been depleted at a much higher rate since the ban, but on the other hand they argued that the ban should be continued otherwise the forest owners would remove the remaining forest within a few months. Similarly the non-right-holders (non-owner forest users) also insisted that the ban should be continued, but that needy people should be provided with timber without any obstacles. On the other hand, the right-holders want the ban to be lifted. Hence the ban is debated and controversial.

5   Access to Forests: Governance and its Upshots

Forest governance encompasses topics relating to how forest resources are managed, ranging from how decisions about forest use are made and who is involved in the decision-making process, to the enforcement of forest laws and policy on the ground.[12]

5.1   Legal classification of forests

Forestry is a provincial mandate in Pakistan and therefore planning, execution and implementation of forests and range management programs is the responsibility of provincial forest departments. However, the forestry wing headed by the Inspector General of Forests in the Federal Ministry of Environment, Local Government & Rural Development is responsible for formulating national forest policy, strategic planning, and of coordination with provincial governments in processing technical proposals on forestry and issues related to natural resource management (Ahmed and Mahmood, 1998). The forests of NWFP are managed according to their legal classification and type of tenure, rather than according to species and ecology. These forests are divided into state and non-state forests. The state-owned forests are further divided into four classes on the basis of the legal protection they are afforded. These are reserved forests, protected forests, unclassed forests and resumed lands. Reserved forest is the strictest tenure class in which the locals have very limited rights. Rights of passage, water, and grazing are allowed as concessions with government approval. In the

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[12] http://www.profor.info/forest_governance.html (website accessed November 2008)

protected forest, in addition to these rights, locals are allowed to collect fuel wood and to obtain timber for their personal needs. They also have a 60-80 percent share of the sale proceeds. Resumed lands (or forests) are the lands surrendered by big landlords in Hazara Civil Division during the land reforms of 1959, while unclassed forests include those (few) forests which are owned by the government but have not been notified as reserve or protected forests (Poffenberger, 2000; and Suleri, 2002).

The non-public (or non-state) forests under varying degrees of government control are divided into five categories, namely "guzara" (a local word used for subsistence), communal forests or "shamlat" (a local word used for community resource), Chos Act Areas, Section 38 Areas and farm forest areas (FSMP, 1992; Ahmed and Mahmood, 1998). "Guzara" forests are private forests held either individually (by families) or jointly (by communities). However, these forests are managed by the Forest Department, except for during a short period (1981–1992) when they were managed by forest cooperative societies (Hassan, 2001). In "guzara" forests, the owners or right-holders are entitled to use the forest wood for domestic purposes, while non-right-holders are granted permission by the owners for certain uses, e.g. grazing of animals, collection of firewood, etc. Communal and "shamlat" are sub-categories of the "guzara" forests, in which the forest is owned by the entire village. The Section 38 Forests are those forests that are offered by the owners to the forest departments for afforestation and management for an agreed period, ranging from 10 to 20 years, under Section 38 of the Forest Act, 1927. The Forest Officer then manages such land on the owner's behalf as a Reserved or Protected Forest, on such terms as may be mutually agreed. The farm forest areas are linear or compact plantings of trees on private farmland. These trees are owned individually or jointly by a family. The management and planning of all types of forests (either state or private), except farm forest areas, is the responsibility of the provincial forest departments (Ahmed and Mahmood, 1998). Neverthe-

less, there is a widening gap between the legal status of forests and the actual practice of forest management in the various categories (Steimann, 2003).

5.2 Institutional access to forests

5.2.1 Traditional forest management practices

Traditionally (prior to British colonial rule), the forests in most of parts of NWFP were managed by locally developed, indigenous institutions under customary and traditional practices. Decisions relating to access to resources and the distribution of benefits, the management of resources, and responsibilities were deeply rooted in socio-cultural mechanisms like "riwaj" (customary law) and the "jirga" (council of tribal elders) system (Sultan-i-Rome, 2005). In the traditional system, according to "riwaj" (customary law), the forest was owned by the concerned landowners. The other segments of the society (non-owners, the landless, etc.) had some privileges in the use of forests; for example they had free access to the forests of the concerned village or tract to graze their livestock, to cut timber and collect fuel wood for household purposes, to cut grass and lop trees to feed their cattle, and to collect minor forest products like mushrooms, honey and medicinal plants (Ahmad, 2000; and Sultan-i-Rome, 2006). The local mountain communities lived in harmony with the forests. A low population and subsistence economy exerted minimal pressure on the mountain forests.

5.2.2 Colonial institutions and legislations

As most of the forests of NWFP are located in (former) Hazara and Malakand divisions and since they have different political and geographical settings, the historical context of these areas is discussed separately.

Forest management in Hazara became a matter of the centralized state when the British came to rule this part of the country around 1850. The Hazara forest rules were written in 1855 and the forests closer to the villages were declared as "Guzara" (subsistence) while the others were declared as reserved forests. Subsequently the forests were looked after by the district deputy commissioners and revenue collectors. The first inspector general of forests in India was appointed in 1873 and the Indian forest service was established (Banuri and Marglin, 1993). To control logging, the first forest legislation was promulgated in 1878. The Indian Forest Act 1878 brought the major part of the forests under government control and thereby nationalized one fifth of India's land area, while limited rights were given to local people (Ahmad, 2000). This resulted in resentment among the local people. The villagers were granted some rights in 1923, and a new Forest Act was promulgated in 1927. Accordingly, in these areas some people either have access to Guzara forests as owners (right holders) or landless and marginal groups, but both are depending on Forest Department's regulations to benefit from forests (Shahbaz et. al., 2008a).

The areas to the west of the Indus river were governed by three independent princely states (Chitral, Swat and Dir) and the colonial authorities therefore had no direct control over these areas. In such regions, they had to use their power and authority from outside in other ways (Sultan-i-Rome, 2005). Nevertheless, customary laws ("rivaj") prevailed in these areas until 1969 when these states were merged into Pakistan. After merger, the Pakistan forest legislations were extended into these states, but the guiding document remained the colonial Forest Act of 1927; the forests were declared protected forests and the Forest Department became the mandated caretaker of these forests.

Thus the forest laws in Pakistan date back to the 19th century and determine forest offences and the punishments provided for them. Ahmed and Mahmood (1998) explained that since forests played an important role in supporting the expansionist objectives of the British colonialists,

the institution of the Forest Department to support these objectives was created in the best colonial tradition. The policing efforts of the forest department have seldom succeeded in protecting the forests - instead they have earned mistrust and provoked confrontation with local communities and defamation for the department staff (Shahbaz et. al, 2007). People living closer to the forests, who once enjoyed access to the forest resources, never accepted the authority of the state over their resources. According to Khan and Naqvi (2000) "this form of colonial governance was effective only so far as the administration did not misuse its power and community needs for forest products were relatively limited. In a more fundamental sense, it was flawed. The top down, non-participatory approach drove a wedge between communities and their birthright by denying them to say in its management and subjecting them to legal process, which was often arbitrary. The unprecedented levels of degradation that country is witnessing currently, partly has its roots in it. Alienated from their resource base, communities are becoming profligate in its use."

Such non-participatory approaches failed to stop forest depletion and the deforestation rate in the mountainous regions of NWFP has become one of the highest in the world (FAO, 2005), and at the same time the conflicts and confrontation between the state (forest department) and the local people escalated (Geiser and Steimann, 2004).

5.2.3 Post-colonial forest policies

Most of the forest policies and land laws promulgated throughout colonial South Asia during the nineteenth century were retained by newly independent nations of the region in the middle of the twentieth century (Poffenberger, 2000). Pakistan was no exception, as at the time of independence (in 1947), the policies, procedures and structures that administered the new nation's forests were largely left intact. The Indian Forest Act of 1927 (which was a slight revision of the Indian Forest Act of 1878) became the Pakistan Forest Act of 1927 after independence

(in 1947). Under this legislation, punitive sanctions were introduced against transgressors. The top-down (colonial) approach to governance was also reflected in the most of the national forest policies announced from time to time (ICIMOD, 1998). The NWFP forest department has remained largely unchanged since colonial times in its approach, its rules and regulations, the decision-making processes and the traditional hierarchical and territorial structure.

The first forest policy agenda of the Government of Pakistan was issued in 1955. The guidelines for this policy were provided by the then Central Board of Forestry constituted in 1952. This policy aimed at increasing the area under forests. Unused government lands were given to the provincial forest departments to grow forests. Extensive linear plantations were to be established along roads, canals and railways. Some new irrigated and linear plantations were established (FSMP, 1992). The top-down approach of governance was also reflected in the second national Forest Policy of 1962. These policies recommended greater powers to the forest department. The policy of 1962 recommended not only the enhancement of penalties under the Forest Act but also demanded magisterial powers for the forest officers. The 1975 Forest Policy was the first policy that recognized the people living in and around forest areas as stakeholders.

A major shift in the post-independence forest management regime of Pakistan occurred in the 1980s. The 1980 Pakistan Forest Policy was developed under the umbrella of the military government. This policy recognized the importance of involving local people in tree plantation, but at the same time it limited the rights of local people by bringing more land under state control and establishing national parks (Shahbaz et. al., 2006). The 1991 policy was influenced to a considerable extent by donor agencies involved in implementing forestry programmes at grass-roots level without necessarily relying on any support from the forest departments. This policy emerged after a consultative workshop with various stakeholders (Ahmed and Mahmood, 1998). It called for

multiple uses and for the consideration of social and (particularly) environmental objectives, although it remained vague about how to achieve those objectives.

The latest Pakistan Forest Policy was prepared in 2001, but it is still waiting to be formally approved by the parliament. This policy covers the renewable natural resources of Pakistan, i.e. forests, watersheds, rangelands, wildlife, biodiversity and their habitats. The policy seeks to launch a process to eliminate the fundamental causes of forest depletion through the active participation of all concerned agencies and stakeholders, in order to realise the sustainable development of the resources. This policy also stressed stricter control over public forests. According to the Government of Pakistan (2001), "this policy shall encourage the provincial governments to create effectively managed protected area networks in areas under their control seeking the needed financial and technical assistance from the federal government." But at the same time this policy recognized the importance of community involvement in the resource management. "Appropriate institutional mechanisms shall be devised for the collaborative management of such protected areas with the local communities in order to give them an economic and environmental stake in the endeavour" and "in the poverty alleviation and other development programmes, high priority shall be given to integrated land-use projects for the sustainable rehabilitation of renewable natural resources with the participation of organised local communities" (Govt of Pakistan, 2001).

According to the constitution of Pakistan, forestry is a provincial mandate (Govt. of Pakistan, 2005) and the provinces can make and implement their own forest policies with in the framework of the national forest policy. The NWFP Forest Ordinance was promulgated on June 10, 2002 and it defines the institutional details for forestry in the province, following the guidelines given by the Forest Policy 2001. It is interesting to note that on the one hand the ordinance also provides a legal cover for the participatory approach of village land-use planning and joint

forest management, and on the other hand the territorial staff of the forest department is declared a 'force' that can carry weapons on duty for self-defence. For many researchers this was a serious contradiction, and major civil society organisations held public protests and demonstrations against this ordinance.

An analysis of the past forest policies depicts that the policies of 1955, 1962, 1975 and 1980 were associated more or less with the change of the governments to meet the government's political objectives. However, the policies of 1991 and 2001 claim to be participatory (Shahbaz et. al.; 2007), but civil society organisations have criticised these as 'donor-driven' policies that ignore the ground-level realities and needs of the local population.

The problem with most of the natural resources management policies in Pakistan in the recent past has been a lack of attention to the human dimension and a focus on a "pro-conservation" approach even at the cost of local livelihoods. Part of the problem stemmed from the non-participatory culture that prevailed in Pakistan. The trends are changing now and today the world is no longer tied up in the "conservation" versus "development" debate. Rather a new approach "conservation as well as development" has now emerged (FAO, 2001; Shackleton et. al., 2002; and Wily, 1997). This trend seems very good and, in this context, the journey of forest policies in Pakistan that started from the Forest Policy of 1894 to the draft National Forest Policy of 2001 (at federal) and NWFP Forest Policy 2001 (at provincial level) represents a huge leap (Shahbaz et. al., 2006). These policies for the first time addressed and considered the importance of local community participation in forest management.

5.2.4 The hierarchy in the Forest Department

Generally, a Chief Conservator of Forests (CCF) heads the provincial Forest Department. The CCF usually has a small team of professional foresters, called staff officers, in their offices to help them with policy, planning and general administration. Under the CCF, there are conservators of forests, each in turn supervising Divisional Forest Officers (DFOs). The DFOs are heads of the forest divisions, which are the basic units of forest administration and management. Each forest division is subdivided into 4 sub-divisions or ranges headed by Range Officers (RO), who in turn supervise 3-4 Foresters each. The lowest forestry official is called a Forest Guard (FG), whose main responsibility is the protection of forests. An FG looks after an area known as a "beat", and 3-4 beats constitute a "block" which a Forester heads. Some structural changes were brought in the forest hierarchy after 1996 (for details see Section 6.2 and Figure 9).

The NWFP forest department that was created in the nineteenth century continues to be centralized and top-down in its management operations and bureaucratic in nature. In practice, state control of the forests was never accepted by the local population in certain parts of the province, particularly in those forests where traditional rights had existed (Hassan, 2001). For example, in Swat, the local people also resist the demarcation of the forests, as in some cases local communities still claim ownership of these lands (Poffenberger, 2000). The state is not perceived as a mandated caretaker of the forests in the name of the people, but rather as being in competition with the interests of local people (Geiser, 2002). Due to this situation, the forest department finds itself in a state of continuous confrontation with the local population and the upshot of this state of affairs has been an acceleration of deforestation in the province.

5.3 Deforestation – shrinking forest resources

Despite there being a fully-fledged Forest Department and forest legislation, deforestation in Pakistan in general and in NWFP in particular have remained very high. Between 1990 and 2000, the deforestation rate in Pakistan was 1.5% annually (FAO, 2005). Studies based on remote sensing showed that the current rate of decline in forest cover in NWFP will lead to the forest completely disappearing from most areas within 30 years (Ahmed and Mahmood, 1998). Deforestation is the most serious threat to the natural mountain forests of NWFP, and it is accompanied by many other environmental and economic effects such as landslides, soil erosion, floods, soil degradation, displacement of people, etc. Although significant progress has been made in tree planting, particularly on farmland, it does not compensate for the loss of natural forests). Local people are often blamed (by the state) in this regard for their exploitative forest resource use (Geiser and Steimann, 2004; Shahbaz et. al., 2006). The removal of forest tracts to grow crops, increasing urbanization, forest felling for road construction, the dependence of the rural population on wood for fuel, the exploding population, poverty, lack of awareness, overgrazing of land by cattle (Mehmood, 2003; and Ali et. al., 2006), and the "timber mafia" (the network of timber dealers, corrupt politicians, forest department, officials, influential tribal leaders, etc. who aim to make money through the illegal harvesting and smuggling of trees from the forest) are some causes of forest depletion in the mountainous regions of NWFP.

Very high timber prices in Pakistan, which are almost twice the world average, have made illegal timber harvesting and smuggling from the highlands of NWFP towards the lowland a very attractive business and this is also one of the main causes of deforestation (Samyn and Nibbering, 2002).

70

Farming is the most important subsistence-oriented livelihood strategy in the mountain areas of NWFP (Steimann, 2005; and Awais, 2005). Depleted upland forests and degraded land in the watersheds are largely a result of people cultivating steep slopes and cutting down trees for fuel and timber. The farmers have to practice intensive methods of cultivation and bring marginal land under cultivation by encroaching on forests and cultivating of steep slopes to meet their subsistence needs (Hussain, 2003). According to IUCN (1996), "the number of people living in the forested mountain areas is increasing rapidly. So are the prices of timber. Both of these have serious impacts on the forests of NWFP. The increase in human population has raised the amount of wood removed from the forests to meet local needs for timber and fuelwood. It has also extended the cultivation of mountain slopes and increased the rate of deforestation. The very high prices of timber have increased the illicit removal of trees. Although considerable forest depletion has been occurring in NWFP for the past century, rapid population increase and rapidly rising timber prices seem to have escalated the rate of cutting in recent decades."

The widespread deforestation in the mountain areas of NWFP has significant implications in that the region houses a significant proportion of Pakistan's watersheds. In September 1992, Pakistan experienced the worst floods in the country's history, and the forests in the northern watersheds came under scrutiny when the possible causes were being investigated. In October 1992, the federal government imposed a complete ban on logging in response to the floods, which were widely believed to have been caused by extensive loss of tree cover in the northern watersheds. This ban did not take into account the timber needs within the country; nor did the directive distinguish between the necessary harvesting of dead wood and illegal logging (ICIMOD, 1998). According to Ahmed and Mahmood (1998) some senior forestry officials in the federal government believed that there were enough stocks of previously harvested timber to meet demands over the next two years. In

reality, contractors did not remain idle but pursued alternative strategies. The "timber mafia", along with their logging crews, moved across the border into Kunar Province in south-eastern Afghanistan. The logging ban in Pakistan triggered extensive deforestation in Afghanistan and the smuggling of timber into Pakistan. Poffenberger (2000) stated that in the context of the 1992 logging ban, the high timber prices driven by growing scarcities and high import duties present "incentives for forest contractors and private owners to circumvent the controls of increasingly marginalised forest department."

On October 8, 2005, Pakistan suffered the worst disaster in its history when an earthquake measuring 7.6 on the Richter scale struck South Asia, causing inconceivable destruction, mainly in parts of NWFP in Pakistan, Azad Jammu and Kashmir (AJK) and parts of Indian-administered Kashmir. More than 80,000 people were killed and the earthquake devastated nearly 30,000 square kilometres, as well as leaving at least 3.5 million people homeless (Beg, 2005; and IUCN, 2005). The unsustainable exploitation of limited forests resources in the aftermath of the earthquake added to the risk of landslides, erosion, floods and droughts in the areas hit by the quake. Forests, which had been carelessly destroyed or left in bad condition before the earthquake took place, might have helped to reduce the damage and loss to life from the quake (IUCN 2005). According to Schuler et al. (2005) "there is a risk of deforestation for energy needs, temporary shelters and reconstruction, with possible consequences like landslides, erosion and floods. Other environmental risks, like stone mining for reconstruction, might cause further damage to the ecosystem. There may be further deforestation when new cities, temporary settlements or other needs emerge."

Ineffective, unsustainable, top-down and non-participatory forest management practices by the state forest departments is one of the main reported causes of forest depletion in NWFP, as they have focused more on economic than on environmental utility. Such practices also deny community subsistence needs (Mehmood, 2003; Steimann, 2003; Shah-

Shahbaz and Ali, 2003; Ali et. al., 2006; and Shahbaz et. al., 2006). The failure of the state (Forest Department) to reduce deforestation and conflicts (of the forest department) with the local population has brought into focus the inefficiency of top-down systems of forest management in sustaining the natural forest resource base against the pressures of growing human and livestock populations, industrialization, urbanization, and overall economic development (Khattak, 2002; and Shahbaz and Ali, 2003a). In response to it many (donor-funded) participatory forestry projects and extension programmes were implemented in NWFP during 1980s and 1990s. The most significant of these is the forestry sector project (FSP), through which the system of participatory or decentralised forest management was implemented in the selected villages throughout NWFP (see details in the next chapter).

5.4   Conclusion

We have seen in the previous chapters that the forests of NWFP are of very great importance for the country's economy, as well as for the subsistence-oriented livelihoods (for example wood for fire and fuel, timber for houses, farming and grazing of livestock on the forest land, etc.) of people living in and around these forests. The communities living around forest areas had considerable rights of access to forests through traditional institutions, but during the colonial period the state authorities brought most of the forests under government control and this status quo was maintained even after the independence of Pakistan. Though there is a fully-fledged Forest Department that manages the natural forests, deforestation has remained very high in NWFP and it has brought with it serious threats to the environment and ecosystem, as well as exacerbating the region's vulnerability to natural devastation by floods (for example, the 1992 flood), landslides, earthquakes (the 2005 earthquake), etc. The top-down, non-participatory forest management practices by the state forest departments have been cited as the

major cause of forest depletion. It has also been argued that the traditional state-controlled system of forest management has proven inadequate at ensuring sustainable forest management. Nevertheless, the state and international donor agencies responded to it, and various forest-related projects and management strategies were introduced in the provinces, of which details are given in the following chapter.

6 Institutional Changes: Joint Forest Management

There are major weaknesses in the policies, methods and mechanisms adopted to support and develop the multiple ecological, economic, social and cultural roles of trees, forests and forest lands. It is necessary to strengthen national institutions, to harmonize policies, to decentralise responsibilities and to expand participation (UNO, 2002).

6.1 Participatory forest management projects

The literature reviewed in Chapter 2 indicates that the process of institutional changes in the forestry sector in many developing countries reflects a will to involve different stakeholders in the sustainable management of forests. In NWFP, the process of institutional changes to forest management began in the mid-1990s through FSP. Various participatory forest management projects set the tone of these 'institutional changes'. These forest management/development projects have been implemented since 1980s in forest areas of NWFP with the intention of securing the downstream water supply, limiting the problems caused by erosion and silting-up, and alleviating rural poverty by involving local communities and motivating them to plant fruit trees to diversify their economy, restore the value of watersheds, and rehabilitate and protect the watershed areas.

The key features of some of the major projects initiated in NWFP and the Northern Areas are given in this section:

i. Kalam Integrated Development Project (KIDP)

The Swiss-assisted Kalam Integrated Development Project (KIDP) wor-ked on the development of the Upper Swat area of NWFP between 1981 and 1998. KIDP developed a model for the sustainable management of mountain land, with the participation of community and interest-based organisations, with the principal aim of improving the quality of life of mountain farmers. It emphasized the development of new approaches to forest management, agricultural extension, the fostering of local self-help capacities, and the encouragement of decision-making through community-based organisations (Geiser, 2000a).

The right-holders of protected forests in Kalam (in Swat district of NWFP) formed 11 Forest Protection Committees (FPC) to protect the forests from illicit cutting and the transportation of timber. The Com-mittees established three forestry checkposts to which they assigned their own staff. According to Suleri (2002), "the effectiveness of people's checkposts established by communities to check illegal extraction of timber under KIDP gave the communities a sense of ownership in natu-ral resource management and a confidence that collaborative approach works". Zia (2000) acknowledges that KIDP has brought about visible changes in various fields and added to farmers' returns through multi-ple land use. Farmers have been noticed to be enthusiastic about raising orchards, especially of grapes and apples. The training of local people in forest harvesting techniques has also resulted in efficient harvesting operations and less timber wastage. When the federal government first place a three-year moratorium on logging operations in 1993 and sub-sequently extended it for another three years, the project activities un-der KIDP did not suffer. However, the whole system of trained forest workers was not adopted by the forest department (Geiser, 2000a). On June 30 1998, this joint Pakistan-Swiss project came to an end, having lasted for 17 years.

ii. Siran Forest Development Project

Siran Forest Development Project (SFDP) was located in the Hazara Civil Division of NWFP and extended to most of the Siran watershed. The German-assisted SFDP sought to combine the intensive forest management approach developed in Kaghan with the social forestry approach. Starting in 1991, its principal challenge was to develop sustainable joint management systems for the beleaguered forests of Siran Valley (Ahmed and Mahmood, 1998). The project opened the door to joint forest management in Pakistan at the policy and operational level (Poffenberger, 2000).

The project introduced the concept of Joint Forest Management into Pakistan for the first time. Amendments were made to the Forest Act of 1927 to accommodate this paradigm shift through a notification issued in April 1996. This Amendment is known as the Hazara Protected Forests (Community Participation) Rules 1996. According to an ex-chief technical advisor to SFDP, one of the major achievements of the project was the minimizing of 'timber stealing' by outsiders due to vigilance of the community (Shahbaz, 2007).

However, the project was closed by the donors because the Government was not willing to make the governance and institutional changes which were required to achieve the real participation of local communities at grassroots level (Suleri, 2002), and forest department continually tried to create obstacles to the work of the joint forest management committees established by the project (Shahbaz, 2007).

iii. Aga Khan Rural Support Programme (AKRSP), Northern Areas

AKRSP, one of the largest NGOs in Pakistan, was established in 1982 to work in the Northern Areas. Today it covers three districts: Gilgit, Baltistan and Chitral. AKRSP was the pioneer in mobilising local communities and implementing sustainable development agenda at grass-

roots level through collective actions. The objective of their programme is to improve the lives of the mountain people of this remote region. The AKRSP covers most of the Northern Areas of Pakistan and has established more than 1,500 village organisations (VOs) and 900 women's organisations (WOs). It has built up the managerial and technical skills of the villagers to enhance land productivity through natural resource management activities by focusing on agriculture, livestock, forestry, and fisheries. Though the focus of AKRSP has been on sustainable development, many of its programmes are contributing to raising environmental conservation awareness among the masses. The programme is today considered as the pioneer in Pakistan in social mobilisation and local-level institutional development for the sustainable management of resources (Ahmed and Mahmood, 1998; and Rao and Marwat, 2003).

The success of the approach has been widely acknowledged and many government and non-government organisations are working with and through the VOs for local-level sustainable development (Javed and Hussain, 1998). Likewise, Poffenberger (2000) mentioned that AKRSP has a strong reputation in Pakistan as an innovator in the field of rural development. The program has found that forestry issues are clarified through community dialogues and planning processes that examine resource and watershed management as a whole. By training hundreds of village forestry specialists including women, AKRSP hoped to blanket the area with extension services. A large number of participatory forestry projects are now replicating the AKRSP approach for community participation outside Northern Areas.

iv. Malakand-Dir Social Forestry Project (MSFP)

The Dutch-assisted MSFP emphasized the participation of communities in the sustainable development of forests and grazing lands. It is the only project that has also taken on the challenge of attempting to develop sustainable management systems for grazing lands. MSFP, covering Malakand and Dir districts of NWFP, started in a pilot phase in

Malakand Agency in 1987-88 and ended in 1997. A key component of the project was Village Land Use Planning (VLUP), a step-by-step approach to preparing a Village Action Plan that contains a complete perspective on land use and zoning as envisaged and agreed by the project and the people (Ahmed and Mahmood, 1998). The long-term objectives of the project were to re-vegetate denuded hillsides and marginal farmlands on a sustainable basis, to develop an extension approach for field activities, and to stimulate the institutionalisation of the extension approach at local level and within the NWFP Forest Department (Ahmad, 2000).

One of the positive impacts of this project was a recognition of the concepts of social forestry and community forestry approaches by the policymakers. There is now a growing emphasis on social forestry in many policy briefs and statements within NWFP. Poffenberger (2000) stated that the project has fostered greater capacity and confidence among the provincial forest department staff to implement social forestry strategies, while social forestry is gaining new prominence in provincial forestry statement. As a result of successful testing, the methodology adopted by MSFP has take root in the institutional approach of the NWFP Government. In fact, the recently initiated ADB-assisted NWFP Forestry Sector Project (FSP) borrows its implementation approach from this project (see Section 6.2).

v. Community Based Resource Management Project (CBRM)

The CBRM Project operated in two districts of NWFP (Buner and Mansehra) from 1998-2006 funded by the Swiss Development Corporation. The project operated in 55 villages in Buner district and 60 villages in Mansehra district (Wattoo, 2008). The main objectives of this project were: to contribute to livelihood improvement for the resource-poor in highland districts of NWFP. This project was funded by the Swiss Development Corporation, through Inter-Cooperation Pakistan. The im-

plementing partners were Sarhad Rural Support Program (SRSP) and Sungi Development Foundation. Its beneficiaries were the local communities of Buner and Mansehra districts. Various government line agencies (such as Department of Agriculture, Livestock, etc.) and two partner NGOs, namely Sarhad Rural Support Program (SRSP) and SUNGI Development Foundation, were involved in the field implementation of the project.

6.2 The Forestry Sector Project (FSP)

Various forest management initiatives – some of which have been discussed in the above section – and planning regimes have added new dimensions to the concept of forestry management. They have also opened the doors for forestry reforms (Ahmad and Mehmood, 1998). In fact the Asian Development Bank's FSP borrowed its implementation approach from these projects. FSP, together with the Institutional Transformation Cell (ITC), a joint Dutch-Swiss-assisted project, devised a set-up to improve decision-making and ownership of the institutional reforms in the Department of Forestry, Fisheries and Wildlife (DFFW), making use of existing experiences and proposals generated by other projects (Suleri, 2002). The project commenced in 1996 under a loan agreement between ADB and the Government of Pakistan. The Dutch Government, GTZ and the Swiss Agency for Development and Cooperation (SDC) also contributed to the project. It aims to protect and improve the hilly and mountainous environment of NWFP, thereby raising the productivity of private, community and government lands suitable for trees, fodder, and other crops through the active participation of beneficiaries in the design, planning and execution of project-related activities (ADB, 1995).

The project had a programme approach. Its aim was to institutionalise the sustainable management of renewable natural resources throughout NWFP. It was to do so by developing and applying an integrated, par-

ticipatory natural resource-management methodology to foster socio-economic and environmental wellbeing of the people. FSP had mainly worked on enhancing the forest department's institutional capacity by following these principles and objectives (Heering, 2002; Steimann, 2003):

- Institutionalisation of the participatory forestry approach in the working of the department;

- Social organisation and capacity building of local community organisations;

- Creation of specialized units in important areas;

- Increasing coordination, cooperation and promotion of team-based management in the department;

- Decentralisation of planning and authority;

- Re-definition and re-orientation of the role of the FD towards advisory functions;

- Addressing gender concerns in the department;

- Improving the training and education system of the department.

The institutional reforms introduced by FSP have also brought about some changes in the administrative structure of the DFFW as shown in Figure 9.

Figure 9   Organisational set-up of the NWFP forestry department
(source: Steimann, 2003)
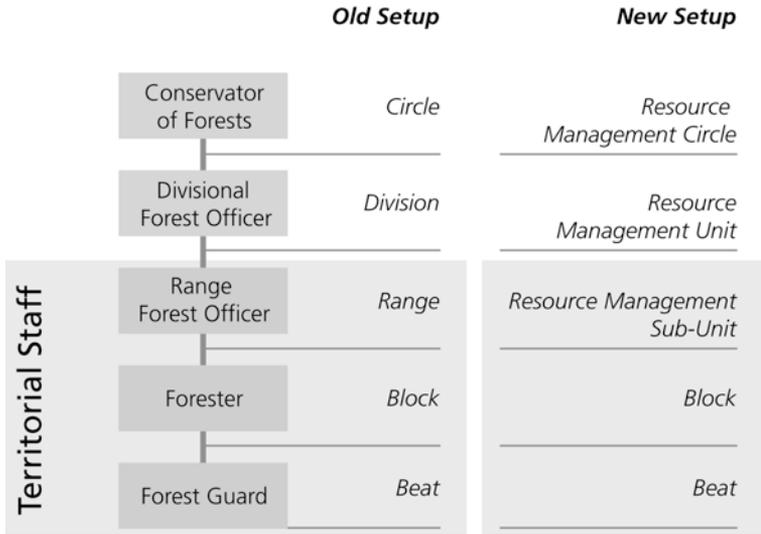
The territorial units of the Forest Department are supplemented by four specialized directorates: Community Development, Extension and Gender Development (CDEGD), Planning and Monitoring (P&M); Human Resource Management (HRM), and Research and Development (R&D). On the one hand, this structure should allow for the devolution of power within the department, following the principle of subsidiarity (decisions should be taken on the lowest level possible). Each representative of the territorial unit should get some kind of 'counterpart' on the same level in every directorate in order to strengthen the horizontal links within the department and make the whole structure less hierarchical (Steimann, 2003). On the other hand, these horizontal links should enable the forest department to build teams at field level in order to work with the communities in an integrative way for village land-use planning (VLUP).

6.2.1   VLUP and the creation of 'new' village institutions

The FSP developed and institutionalised the operational plan and land-use planning at village level - known as Village Land Use Plan (VLUP) - for the management of natural resources - particularly forests - with the active participation of the local people (Khattak, 2002). The village plan accentuated the empowerment of residents in decision-making to improve their natural resources. The VLUP involves a set of guided steps in a planning process whose intention is to involve various actors, viz. the local community, non-governmental organisations, and the outsider landowners, etc. in the protection and management of the forests and development activities at village level in collaboration with the state forest department (Shahbaz and Ali, 2006; and Samyn & Nibbering 2002).

The Village Development Committees (VDC) and Women's Organisations (WO) were established to improve natural resource management by developing natural resource management plans (or VLUP) at village level. These Committees (VDCs) are elected more or less democratically, representing all the different khels (tribes) in a village (Steimann, 2003). These institutions were selected (or elected) in more or less similar (democratic) fashion in most of the project villages.

The process of the formation of the VDC/WO and VLUP in particular is as follows. When villages were selected by the forest department, a team of officials from the department and FSP staff held a general meeting in the villages to inform the villagers (of the project villages) about the objectives of the project interventions. The villagers were then urged to constitute the VDC (composed of 12-15 males) and WO (consist of 10-12 females). The male social organiser of FSP assisted with the establishment of the VDC, while the female organiser (usually a female forestry extension worker) helped to set up the WO. The residents of various hamlets and of the different tribes in a village select their respective

members, and in turn these members elect (or select) the president, secretary, treasurer, etc. of their VDC and WO. These newly created institutions (VDC/WO) set their priorities for the improvement of village infrastructure, natural resource management (NRM), and training needs. At the same time, the FSP staff and the VDC/WO develop a village land use plan (VLUP) for the controlled use of natural resource and infrastructure development activities. A formal agreement is signed between the VDC/WO and the forest department.

Some of the objectives defined in the VLUP document are[13]:

- To make the community aware of the importance and proper management of their natural resources;
- To bring the community towards a collective and self-help vision for their general development;
- To manage the natural resources of the village on a sustainable basis;
- To recognize and formalize the genuine role of women in the natural resource development through their active involvement in natural resource management;
- To increase income from natural resources, in particular for the poorer segments of the community;
- To attain self-sufficiency in seedling supplies;
- To improve village infrastructure;
- To bring harmony and reduce social disparities by giving equal opportunity to everyone through human resource development.

The improvement of village infrastructure is also one of the objectives of VDC/VLUP, and there is a commitment (in VLUP) that if local people contribute 30% (either in cash or in kind or in labour) for development schemes (roads, water, etc.), then the project will contribute 70% (Govt. of NWFP, 2001). The stated objectives of the VDCs and VLUP indicated

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[13] Excerpts from the Village Land Use Plan of different villages, DFFW, Dist. Mansehra, Pakistan

that its sphere went beyond 'only forest-related' activities, and that development work was also carried out in some pilot villages.

Existing studies on the VLUP approach and the formation of the village-level committees adopted by the FSP highlight many flaws in this approach. Suleri (2002) mentioned that the VLUP methodology does not specifically focus on the poor in the village, nor does it target the poor as beneficiaries of the proposed interventions. The VDCs/WOs are neither fully representative nor participatory, and the mechanism appears biased towards the village elite. A consultative culture has not been adopted yet. VDCs have only very limited decision-making power over operational and financial planning. The VLUP process is very much pre-designed and does not really allow for the realization of local ideas and initiatives. In the planning process, committee members can only help in gathering village data and suggest some minor interventions. Many committees only get to know the full content of 'their' plan after its approval by the forest department (Steimann, 2003). The VDCs sometimes lack the vision needed to transform them into multi-purpose organisations (Ahmad, 2000). The local committees are given fewer powers than the forest department. The agreement signed by the forest department and a committee for their cooperation with VLUP can be terminated at any time by the department for many different reasons (Steimann, 2003; and Suleri 2002). The local communities had high expectations of VDCs regarding development activities, whereas the forest department mainly concentrates on forest protection and afforestation measures - all other infrastructural activities were of secondary importance only (Steimann, 2004).

6.2.2 Devolution of power – political decentralisation

The (new) local government system was implemented throughout Pakistan in 2001. The essence of this system is that local governments are accountable to citizens for all their decisions. It enables the proactive

elements of society to participate in community work and development-related activities. This devolution plan added an extra dimension to the already complex forest reform process (Geiser, 2002). The forestry sector was among the few sectors that were not devolved under the devolution plan, and the provincial forest department is the main 'custodian' of the forests. Under the Local Government Plan, only farm forestry on private agricultural land and the raising of private nurseries has been relocated (or devolved) from provincial to district level. All the "hard issues" such as harvesting, marking, preparation of plans and plantations have been kept with the forest department on provincial level (Steimann, 2003). Nevertheless, some informal links do exist, without yet showing any results. In many VDCs and WOs, male and female union councillors act as committee members. This is a promising link for the future; it could help to keep the local councils informed about the committees' activities and to raise funds for some of them (Steimann, 2003).

6.2.3 Ensuring continuity

These institutional changes were given legal cover through forest policies and forest ordinance. The participation of local communities, the promotion of private sector investment, and recommendations for the revision of the forestry legislation have been included in the NWFP Forest Policy of 2001 (Shahbaz et. al, 2007). Illegal harvesting and the local need for fuel wood and construction timber have been recognized as core problems. For the first time, the policy not only addressed the traditional forests but also the management of rangelands, wastelands, watersheds and farm forestry. In this regard, the document can be seen as a trendsetter in Asia (Suleri 2002a). The NWFP Forest Ordinance promulgated on June 10, 2002 defines the institutional details for forestry in the province, following the guidelines given by the 2001 Forest Policy. The ordinance also provides legal cover for the participatory approach of village land use planning and joint forest management

6.3   Conclusion

The (large scale) institutional changes in the NWFP forestry sector were started after the implementation of the ADB-funded FSP in the mid-1990s. The participatory forestry approach (or joint forest management) was institutionalised through this project. The village-level committees (VDC and WO) were constituted to implement VLUPs and carry out development activities at village level. The devolution of power in 2001 added an extra dimension to the forest reform process. Although the forestry was not 'devolved', there are still some linkages between forestry reforms and devolution of power plan.

Nilsson (2005) has argued that policies in the forest sector have long-term impacts; there is therefore a need to carry out major evaluations of such policies. Policymakers, researchers and foresters have often discussed joint forest management (JFM) monitoring, but they have seldom considered the livelihoods perspective of JFM (Bahuguna and Upadhyay, 2004). It is therefore extremely valuable to analyse and monitor the impact of JFM on livelihoods (Pandey, 2005). There is a close link between local livelihoods and state policies, as the policies, institutions and processes form the context within which the individuals or households construct or adopt various livelihood strategies (Mueller-Boeker, 2004). Understanding how these levels interact is of vital importance for the development of sustainable forest management (Ojha et. al., 2003). **The forestry sector in NWFP, therefore, makes an interesting case study to analyse the impact of state policies – participatory forest management in our case – on rural livelihoods.** It is also imperative to identify the issues supporting or hindering the effectiveness of forest reform process (JFM) in NWFP, and to develop the policy guidelines that can improve the effectiveness of institutional change. The next chapter explicitly presents an impact assessment of participatory forest management on the livelihoods of the respondents. For the impact evaluation, the technique of comparing the control group (the areas or individuals that do not participate in a project) with the treat-

ment group (the individuals or areas that do receive the interventions) was used.

7 Assessing the Impacts of JFM: Livelihoods Perspective

Despite continued emphasis on devolving forest management authorities to local communities, in practice genuine devolution of authority and power over the forest has occurred only to a limited extent. In most of the cases the problems that frequently occur in the implementation of decentralization processes and policies are not flaws inherent in decentralization. Rather, they are a result of poor design of decentralization policies, procedural weaknesses, and a lack of pragmatic implementation strategies (Kulipossa, 2004).

This chapter explicitly analyses and summarises the results to explain the impact of participatory forest management on access to livelihood assets and livelihood strategies in the context of the donor-supported Forestry Sector Project (see Chapter 6). The technique of comparing control (non-project) villages versus experimental (project) villages was adopted to carry out the impact assessment. Therefore, there were two samples for the research. Population I consisted of four randomly selected project villages (where the participatory approach to forest management was implemented as a result of FSP interventions and village-level institutions such as VDC and WO were created to manage forest resources and improve the village infrastructure together with the forest department). Population II consisted of four randomly selected non-project villages (where the FSP did not intervene and the Forest Department was solely responsible for managing forest resources).

The Village Development Committees (VDC) and Women's Organisations (WO) established by the FSP to improve natural resource management through a VLUP at village level also had a mandate to improve village infrastructure. There is a commitment (in the VLUP) that if local people contribute 30% (either in cash, in kind or in labour) of development schemes (roads, water, etc.) then the project will contribute the other 70% (Govt. of NWFP, 2001). Similarly, the development of human capital (for example training, leadership skills, etc.) was also an important objective of the project. The stated objectives of the VDCs and the VLUP indicated that its mandate went beyond 'only forest related' activities.

This chapter, therefore, focuses on a critical analysis of the FSP model of JFM in NWFP from the perspective of local people's (access to) livelihood assets and livelihood strategies.

More specifically, this chapter addresses the following research questions:

- What is the impact of participatory forest management on local communities' (access to) livelihood assets?
- What is the impact of JFM on local people's livelihood strategies ?

7.1   Access to livelihood assets

There is a close relationship between livelihood outcomes and livelihood assets, the two being linked through livelihood strategies (DFID, 2001). Rural people's access to and ownership of certain livelihood assets may have a significant effect on their vulnerability to risks because limited (or partial) access to livelihood assets increases people's defencelessness and exposure to shocks and stress (risks). It would increase internal vulnerability (incapacity to avoid danger/risk) which ultimately increases the external risks, shocks, and stress to which an

individual or household is subject (see O'Riordan, UNISDR, and Chambers)[14]. Access to livelihood assets is determined by the social, institutional and policy environment within which people live (DFID, 2001).

The following section (which is based on the quantitative data presented in Chapter 5 as well as qualitative data) analyses the access of the respondents to the livelihood assets in the perspectives of participatory forest management in NWFP.

7.1.1 Access to natural assets

i. Forests

Forest wood (timber) is intensively used to build new houses and to repair existing ones. The main construction material used for most of the houses in the study villages is wood (see Section 4.2.1). Moreover, the author also observed that animals grazed freely in the forest areas and this may be one of the main reasons for the inadequate growth and regeneration of new trees. These findings are corroborated by those of some previous researchers (Hussain, 2003; Mehmood, 2003) who concluded that increasing demand for forest wood by the local population

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[14] O'Riordan (2002) defined vulnerability at the societal level as "the incapacity to avoid danger, or to be uninformed of impeding threat, or to be so politically powerless and poor as to be forced to live in conditions of danger". Risk (which is interlinked with vulnerability), as defined by UNISDR (2004), is "the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazards and vulnerable conditions. Beyond expressing a possibility of physical harm, it is essential to appreciate that risks are always created or exist within social systems." It is important to consider the social contexts in which risks occur and that people therefore do not necessarily share the same perceptions of risks and their underlying causes. Chambers (1989) defined vulnerability as a combination of defencelessness, insecurity, and exposure to risk, shocks and stress. Here, vulnerability refers to things that are outside people's control.

for their household and other subsistence needs is one of the main 'pressures' on forests in NWFP.

This did not back up the common assumption that most forest resources are destroyed by local residents for income-generating activities. In fact local people do not cut down trees for economic purposes, though they do have to use a minor part of forest resources for their sur-vival/subsistence needs, that include fuel wood, timber (for household use), pastures, and fodder. The intensive use of wood as fuel for cook-ing and heating during harsh winters was essentially due to the lack of alternative sources of energy (Ali et. al., 2006). Natural gas is not avail-able in the mountain villages of NWFP and the higher cost of electricity restricts its use for cooking and heating. Similarly, kerosene oil and liquid petroleum gas (LPG) cylinders are unaffordable for local people. The winter season is very harsh with heavy snowfall, and people have no other option but to use forest wood for cooking and heating.

Nevertheless, a positive outcome of the participatory approach was increased awareness among the residents of the project villages regard-ing forest protection. This is indicated by the significant difference in responses by project as compared to non-project villages regarding the reduction of illegal cutting and changes to forest cover (see Table 1). The qualitative interviews revealed that one of the reasons for this aware-ness was that during the VLUP process, the forest department used some participatory rural appraisal tools like transect walks, group meet-ing, etc. to inform local people about the importance of the forest for their lives and for future generations. The harmful consequences of forest degradation were also explained during the VLUP process. For the majority of people, such meetings were the first they had been to and they realise that they stand to benefit from forest protection. In most cases, the VDCs have developed a mechanism of fines for trans-gressors and the fines collected were paid into the VDC account. In

some of the project villages, the members of the VDCs themselves guard the forests. Some qualitative remarks made in this regard are as follows:

> *A farmer of the project village (Asharay) reported: "Last year some officers from the forest department and a "gora" (foreigner white man) came to our village and they met with the "jirga" (the court of village elders), in which they told us that these trees are very important for our lives and if we cut the trees then there will be more landslides and floods in our village". Another villager said, "……… They also said that we should save these forests for our children and grand children". A retired school teacher of Phaagal reported, "……… I saw two people were cutting a tree at the top of the hill; I immediately went down and told the matter to the secretary. He took about 7-8 people with him and also the forest guard. When we reached the spot, the wood thieves ran away and left behind the wooden slab they had prepared. We followed them but they were too quick and disappeared in the forest. Now the thieves know very well that we [the villagers] are united for the protection of our forest".*

The qualitative information given above indicates that the members of the VDC have been quite active in motivating people not to cut down the trees and to protect the forest wealth of their village from outside transgressors. The common villagers were also far more aware of the importance of forests than villagers from the non-project villages.

The results regarding the positive impacts of participatory forest management on the sustainability of forest resources (less forest depletion and a reduction of illegal cutting) indicate that "institutional changes (participatory forest management) have a positive impact on the natural capital (forests) of the local people". The results also show that the participation of local people in forest management had raised their aware-

ness regarding forest protection and forest conservation. These findings substantiate the findings of previous researchers such as Lescuyer et al. (2001), Gardener et al. (2001), Saigal (2000) and Sundar (2001). They argued that, if given sufficient powers, awareness and capacity-building, the local community can protect the forest resources better than the state forest department.

However the other side of the picture was that access to forest resources had become more difficult for local forest users since the implementation of participatory approach. Qualitative data indicated that this (lack of access) was mainly due to the unsupportive attitude of forest department staff and to a weak institutional framework that allows the forest department to bar the local population from the forest despite the whole participatory approach (see Chapter 6). This situation substantiates the findings of some previous researchers (for example Kulipossa, 2004; and Ribot, 2004) that recurring problems in the implementation of decentralisation processes and policies are not flaws that are inherent to decentralisation. They are instead a result of poorly designed decentralisation policies, procedural weaknesses, and a lack of pragmatic implementation strategies.

ii. Water

The VLUP document prepared by FSP staff and local people indicated that the forest department was committed to providing funds to improve village infrastructure, implement drinking water schemes, etc. This means that the FSP was expected to play a role that went beyond mere forest-related activities (ADB, 1995; and Govt. of NWFP, 2001). One of the main demands/expectations villages had of the VDCs was that they would provide drinking water. The overall results regarding access to drinking water indicate that more respondents in project villages had access to piped drinking water due to the project interventions. In the non-project villages, more households were dependent on

open streams for drinking water. The initiation of the drinking water supply schemes by the VDCs in some hamlets of the project villages was a positive step. However, the qualitative interviews revealed that most respondents from the project villages were not very satisfied because the water supply schemes were limited to very few hamlets of the village and the majority of people still had no access to piped drinking water. The focus group interviews were organised with members of the VDCs in Gulmera, Asharay and Gujaro Khowre villages. One of the most important demands of the members was the provision of the drinking water, but the members said that the forest department was more interested in establishing nurseries and planting new trees. The participants in the focus groups emphasised that development activities and improvements to their village infrastructure (the piped water supply, etc.) were very important for the villagers. During a focus group interview, the participants indicated that there are many small streams in the mountains and these streams had abundant water during the rainy season. Constructing small dams on these streams and supplying drinking water through pipes would solve the problems of scarce drinking water.

7.1.2   Access to social assets

i. Trust and relationship

The new institutions (VDCs) had created harmony among different tribes of the project villages (see Table 2). Respondents from project villages had greater trust and a better relationship (with other tribes) than those from the non-project villages. All the tribes in a village were represented on these committees, and the members of the VDCs as well as common people had more opportunities to interact with other tribes than people in non-project villages. It is also noteworthy that respondents from project and non-project villages reported significant differences between the average level of trust and the relationship local peo-

ple had with the forest department. The reported averages were higher for the project villages than for the non-project villages. This might be due to the fact that, in the project villages, VDC meetings were attended by staff from the forest department, thus increasing the chances of their interacting with the community. Similarly, during the VLUP process, forest department staff frequently visited the project villages and the villagers had more chances to meet foresters and even higher officials from their areas. Although residents in the project villages showed some resentment towards the forest department, the situation was worse in the non-project villages. Some excerpts from qualitative interviews are given below.

> "…….. The forester and sometimes the range forest officer also participate in the meetings of the VDC and we as well as common villagers can directly communicate with them and let them know about our problems and suggestions", the secretary of the VDC of a project village said. An old farmer of Gulmera village said, "………… Yes! I met with the conservator of forest in my village for the first time in my life. He and many other officers came to tell us about the importance of the VDC and forest protection…………" "………..We have seen a change in the attitude of the forest officers since the initiation of the project. The same officers who even weren't ready to talk to us, they personally visited our village, attended "jirgas" and heard our problems" a councillor of Gujaro Khwore village reported.

The remarks above illustrate the increasing interaction between residents of the project villages and forest department staff. Even though the level of trust and the relationship of the respondents of project villages was better than in non-project villages, it was still below average (see Table 2) The qualitative interviews gave further explanations for

the mistrust and the poor relationship between the state (forest department) and the forest dwellers. Some typical qualitative remarks of the respondents were:

> *"The foresters take money from the smugglers and allow them to cut as many trees they want"; "The forest department has less control on the area, the timber smugglers are more powerful than the department"; "We established a village committee to protect the forests but the forest guard and the forester threatened the president and secretary of the committee and ultimately the activities of the committee were ceased"; "……….We are poor and we cannot survive without wood, but the forest department imposes restrictions on us while for the rich people there is no problem at all"; "Our young boys are unemployed and they have nothing to do except to cut trees and sell it in the market". "………. We understand that these trees are our wealth and in fact we are living here because of the forests, as there are no gold mines in this area. We have to use firewood during winter, otherwise our children will die of cold. We also have to use wood for the repair of our roofs because during the winter heavy snowfall badly damages our houses. But these governmental employees [forest department] consider the forests as their property and not only demand money from us, but also allow the outsiders to cut trees just for few hundred rupees."*

These statements show that department staff and outsiders are the most powerful interest groups that prevent the committees from doing their job. The forest officials take bribes from the timber smugglers and allow them to cut down the trees, while one statement indicates that the timber smuggles are more powerful than the forest department. Officially, there are now newly created village level organisations (VDC and WO)

that should help to manage the forests with government help and local support. However, members of these local-level organisations criticise the forest department for their uncooperative attitude. This lack of trust and of a friendly relationship between the communities and the state is one of the vital issues hindering the effectiveness of participatory forest management.

The root causes of this mistrust are to be found in the colonial era (Prasad and Kant, 2003) and in the continuation of colonial policies after independence. The forest service placed greater emphasis on holding on to government control and enforcing edicts than on the needs of the communities living in and around the forests (ICIMOD, 1998). This created a feeling of lack of ownership among the marginalised sections. The punitive laws and restrictions imposed by past forest management strategies had created a huge gap between the local community and the state. The recent shift towards a participatory paradigm was expected to overcome this gap. However, our qualitative research showed that most people still perceived the forest department as being solely responsible for the depletion of the forests. In addition, people's general perception is that the forest department works with the timber mafia[15] and is selling their precious forests to outsiders. On the other hand, forest department officials often blame local people for overexploiting forest resources. Of course, trust takes time to build, but it is easily broken and when a society is pervaded by distrust, cooperative arrangements are unlikely to emerge (Baland & Platteau, 1998; and Pretty & Ward, 2001). Therefore, despite the fact that "new" participatory steps are being taken in NWFP, there is still a huge gap between the state and local people. However, the decentralised forest management model intro-

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[15] This refers to a network of people established with the single purpose of making money from cutting down trees and selling timber illegally. This nexus emerged through the use of certain practices like networking, bribing, blackmailing, buying royalties, and exporting local timber and importing 'foreignised' timber (Geiser 2000).

duced by the FSP does have the potential to bridge this gap, seeing as a slight improvement in the level of the relationship and trust has been recorded in the project villages. The people of these villages showed slightly more trust in and a better relationship with the forest department than other (non-project) villages.

Significantly, greater trust and a better relationship with the Union Council (UC) were also found in the project village. Respondents (from the project villages) reported significantly more trust and a better relationship with their councillors than respondents of non-project villages. Significant differences were also found regarding the participation of respondents from project and non-project villages in UC activities (see Table 2). The main reason for this was that in most of the project villages, the councillors were also members of the VDC and actively participate in VDC activities and meetings. Local people had more opportunities to interact with members of the UC (councillors). Development work carried out by the VDC also enhanced the reputation of UC members. Another reason (confirmed by the qualitative data) was that the villagers had more opportunities to interact with their councillors (members of the UC), and the councillors supported the development activities carried out by the VDC. Therefore, respondents (from the project villages) gave the performance of the UC better ratings than respondents from non-project villages.

It can be concluded from the above discussion that the participatory forest management initiatives had increased local people's trust in and relationship with the forest department, the union council, and with people from other tribes. This finding thus confirms the hypothesis that "participation in forest management has improved the access of rural forest dwellers to social capital (assets)". This evidence also supports the findings of Duper and Badenoch (2002), who stated that decentralisation has the potential to enhance communities' social assets. Likewise, Panday (2005) argued that joint forest management can improve the

communities' social capital through the establishment of local committees and improved networking. The above finding also agrees with that of Malla (2000), who reported that since the inception of participatory forest management systems in Nepal, interactions between forest office staff and village people have greatly increased. The villagers, especially forest-user group committee members, were gradually gaining confidence and a sense of ownership of their village forest resources.

ii. Collective action

The involvement of more respondents (or their family members) from the project villages than from non-project villages in the common development activities was due to the motivation and stimulation provided by the new institutions created by the FSP participatory forest management approach, as is clear from Table 10.

Table 10 Perceived willingness of villagers to contribute to the common development activities (own survey)

Village	Non-Project		Project	
	f	%	f	%
No one	3	1.5	4	2
Less than half	48	24	20	10
About half	61	30.5	51	25.5
More than half	60	30	91	45.5
Everyone	28	14	34	17
Total	200	100	200	100

Considerably more respondents from the project villages than from non-project villages reported that between half and all of them would contribute towards development activities. This can be traced to the

motivation provided by the newly created institutions (VDCs) in the project villages. It can be concluded on the basis of the above results that the project interventions (participatory approach to forest management) had considerably enhanced the potential for collective action in the project villages. Also, the new democratic institutions (VDCs) created by the participatory approach to development/forest management have encouraged greater collective action in the project villages. These institutions also have considerable potential to replace the practical use of traditional (orthodox) institutions such as the "jirga" and the mosque in some cases. This statement endorses the findings of Duper and Badenoch (2002), who concluded that decentralised natural resource management process could provide political and social resources to support communities' existing self-help efforts. The present results also support the views of Miyuki and Boonthavy (2004), who mentioned that evolving institutions for natural resource use and management (in Laos) reflect villagers' increased awareness of the value of collective action for natural resource management and mutual assistance. Villagers suggested that the tangibility and the reciprocity of benefits from collective action are key to promoting active and voluntary collective action.

It can also be concluded from the synthesis of overall results regarding collective action that the new (democratic) institutions (VDCs) can in some cases replace the practical role of traditional institutions. This confirms Steimann's hypothesis (2004) that community-based organisations are gradually replacing the practical use of the "jirga".

7.1.3 Access to physical assets

i. Household possessions

The overall results regarding household possessions indicate that there were no significant differences in household possessions and livestock

between project and non-project villages, and that there was no change in the household possessions of people of project villages since the implementation of the project (except for phones and fans). It can be argued that the main objectives of the FSP were to improve forest management and village infrastructure (ADB, 1995). Income generation was of secondary importance to the project interventions. Therefore there is not much difference between people's private physical assets in both types of villages.

ii. Construction timber

Timber is the most essential and precious forest resource to local people because wood is the major construction material for most houses in the mountain areas. Access to construction timber was identified as one of the most important indicators to assess the impact of participatory forest management. Therefore a separate question was asked about access to timber (for household use), and it was measured on a five-point Likert scale indicating how easy this was (1=very difficult, 2=difficult, 3=average, 4=easy, and 5=very easy). The relevant data are given in Table 11.

Table 11   Institutional access to construction timber (own survey)

Village	N	Mean	T	Sig
Project	200	1.54		
Non-Project	200	1.79		
Both (Mean)	400	1.66	3.31	0.001**

*(** The differences are highly significant)*

Access to timber was perceived as being very difficult to difficult. People of project villages found access to timber significantly more difficult

than people from non-project villages. The quantitative data presented in Figure 10 and the qualitative interviews explain this finding. Respondents were asked to reveal how they got the timber to construct or repair their houses. The data regarding their responses is shown in Figure 10.

From Figure 10 it can be cautiously concluded that the participatory forest management initiatives have reduced the amount of bribes and illegal cutting, but have given way to a black market because respondents from non-project villages were more likely to pay bribes whereas considerably more respondents from project villages purchased wood on the black market. The figure also revealed that significantly more respondents from project villages (as compared to non-project villages) obtained timber legally with a permit and their perception was therefore that obtaining timber was difficult.

Figure 10 Means of obtaining construction timber (own survey)
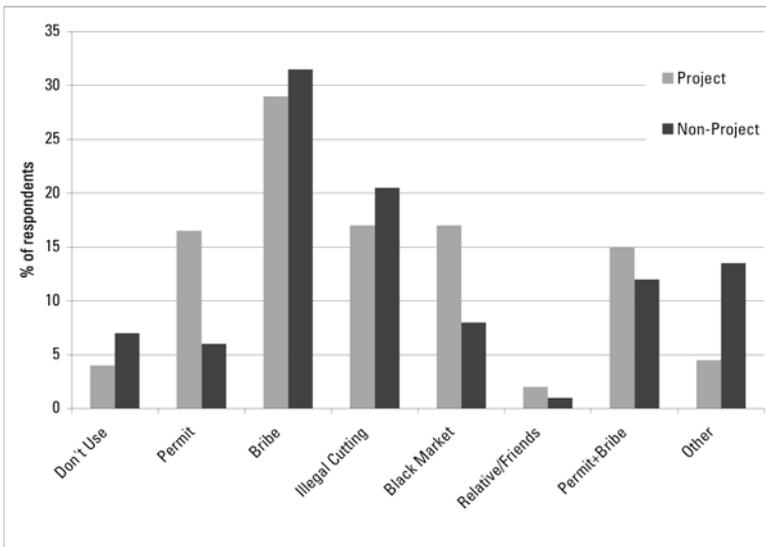
Respondents from both types of villages stated that institutional access to the forests was difficult. The strict and punitive forest laws and policies had rendered it difficult for forest residents to have access to forest resources. The state is perceived as being in competition with local people's access to natural resources (such as forests) and interests (Geiser, 2002). The participatory approach is supposed to facilitate the local forest users' use of forest products (Govt. of NWFP, 2001), but in practice respondents from the project villages to forests had as much difficulty accessing them as respondents from non-project villages. This situation confounded the high expectations of residents in the project villages because, during the initial stages of the FSP, various ambitious commitments were made by the forest department regarding access to forest resources.

Figure 11 Some houses in Gujaro-Khwore village (Swat). Wood is the major construction material in mountain houses (photo by the author)

However, after the implementation of VLUP, VDC members and local residents complained about the uncooperative behaviour of Forest Department staff. Restricted legal access to forest resources has forced local people to adopt other (illegal) means, for example by paying bribes to the foresters or purchasing the construction timber on the black market, etc.

One of the reasons why respondents from the project villages found it difficult to get access to construction timber was (as the qualitative data revealed) VDC members' vigilance regarding forest protection. Therefore respondents from the project villages had to purchase timber on the black market, whereas most respondents in the non-project villages got timber illegally through illicit cutting, paying bribes, etc. It can be cautiously concluded that the participatory forest management initiatives have reduced bribery and illegal cutting, but have given way to a black market (Figure 10). The figure also revealed that significantly more respondents from project villages (as compared to non-project villages) were obtaining timber legally with a permit and therefore perceived obtaining timber as being difficult (see Table 11). The permit procedure is quite complicated and involves a lot of red tape. This includes a very complicated process requiring dwellers' (local people) applications to be channelled up through a hierarchy of forest officials. The qualitative data indicated that the applications of the forest dwellers had to be routed through the forest guard (who most of the time demands a bribe in money or kind), the forester (block officer), the Range Forest Officer and sometimes the divisional forest officer (DFO). The final decision is taken either by the RFO or the DFO and then the application has to be routed back down through the same channel. As more respondents from project villages than from non-project villages obtained timber with permits, they rated access to timber as being more difficult

Some qualitative data is presented here in support of the findings above.

> *One respondent of a project village said "….. Last summer I needed timber to repair the roof of my house. First of all I had to request the forest guard who is very corrupt and demanded five chickens and then he put his signature on my application. Afterwards I submitted my application in the forest office. After many visits to the forest office the permit was issued after four months and then I was able to cut a tree". An angry respondent reported, "You can see the house of that forest guard, it is much better than ours, this is because of the bribe he takes from us". Another respondent said, "……….Then I travelled for two hours on foot to hand over my application [to obtain a permit] to the range officer but he was not in the office. Next day, I went again but he was not there, I tried third time but again failed to find the range officer. Now I have decided that I will give two thousand rupees to the forest guard and cut the tree without a permit".*

The above statements are an indicatation of the difficulty faced by the residents to obtain timber through legal means. In one of the project villages, the permit procedure was simplified because the forest department had authorised the VDC to recommend applications, which were then sent directly to the Range Officer. However, some respondents from that particular village stated that the VDC president and secretary only recommended applications by their close friends and relatives or by influential people. Hence they were victims of nepotism and favouritism.

In the context of institutional changes, the respondents argued that if local people could have easier access to construction timber (as an outcome of participatory forest management), then they would protect/conserve their forests better in collaboration with the state forest officials. Local forest users' participation in forestry projects has often

suffered from too weak economic incentives, a poor understanding of these intensive projects, and poor policy design (Richards et al., 2003). Most of the donor-driven projects laid greater emphasis on forest protection, while easy access to forest resources for their household needs is far more crucial to most local people. Deforestation is still a rather abstract topic (Steimann, 2004).

iii. Educational institutions

Higher education institutions (colleges) were located far away from most of the villages. The qualitative interviews revealed that the long distances to colleges was one of the reasons for the lack of higher education among rural youth. Similarly, due to the girls' school being even farther from the village, most of the females could not study beyond primary school level (five years of schooling). This finding endorses the results of Steimann (2004), who concluded that a lack of sufficient school facilities for girls, who often have to leave school after primary, was the main reason for the low literacy rate in the mountainous areas of NWFP. Some of the comments/remarks by respondents were:

> *"……. The college is too far and my son has to change two buses to reach there and I cannot afford to pay for the bus ticket every day," a farmer in Kharyala-dogah village said. A shopkeeper of Gulmera village remarked, "……… It is ok for the girls to go to the school up to the primary level, but after this we cannot send them to the town for high school as it is against our family traditions that our girls go to other places without the company of their parents or brothers." A primary school teacher in Gibral-Utror said, "Most of my female students, who pass the primary school examination, discontinue their studies because their parents don't want to send them to the towns or*

> *cities for higher studies. However most of the par-*
> *ents send their boys to the high schools or colleges*
> *because they believe that their sons will earn more*
> *money if they are educated." "…….. It is against*
> *the culture of local people that their females go out*
> *of their homes and the other people see them", an*
> *old man remarked.*

In the context of institutional changes, a VDC member in Gulmera said that "the people and especially women demanded that a higher school or a vocational centre for girls should be established in the village. We had requested the forest department to establish a vocational school, but the chances are very meagre that this demand is fulfilled, as they are more interested in forests".

The above remarks indicate what local people expect of VDCs in terms of improving educational institutions, but this type of activities are a lower priority for FSP staff.

Nevertheless, one of the (indirect) positive outcomes of the participatory approach was the improvement in the quality of the primary school (in the project villages). The reason for this might be that most of the VDC monthly meetings were held in the local primary school building and many state officials and local people visit the primary schools (of the project villages) at least once per month. The primary school teacher had therefore to be more vigilant, and the school administration had to keep the teaching standard and the school building up to the mark.

iv. Road

According to respondents from the project villages, better access and the better quality of the "pucca" road were due to new road building by the VDC using funds provided by the FSP. The focus group interviews with the members of the VDC revealed that VDCs' main demand was

that a road be built to link their respective villages to the nearby towns; in three out of four villages, the VDCs managed to build the roads. However some of the respondents complained that the newly constructed roads were only of use to the hamlets where influential members of the VDC lived. Nonetheless, the construction of these link roads was a positive outcome of the FSP, and it enhanced the physical capital of the local people. The road helped poor farmers as they needed less time to take their products to town. Similarly, common villagers had also noticed significant changes since the construction of the new roads.

> *A respondent said, "……… Before this road we had to take our ailing and serious patients on our shoulders and charpoys (beds) and had to cover miles to reach the doctor, but now the vans come directly to our village". A farmer of non-project villages said, "…… We badly need a road here. I have to hire a donkey to carry a bag of flour from karohroi (nearby town) to my village, and pay an extra fifty rupees [about 80 US cents] for this".*

7.1.4 Access to human assets

i. Education

The results indicate that considerably more children (male and female) were attending school in the project villages than in the non-project villages. This may be attributable to a better quality of education in the project villages (see Table 4) There was no difference in the adult literacy level between the project and non-project villages. However, respondents in the project villages had higher social capital due to more interaction with state officials, and other tribes, etc. (Table 2), and this had led to higher school enrolment. It can therefore be concluded that the project interventions have (indirectly) improved school enrolment because there was a noticeable difference in school enrolment between the project and the non-project villages.

ii. Non-formal (extension) education

The qualitative key informant and focus group interviews were conducted to find out what impact the participatory forestry had had on the education of the local population. Some training (in nursery-raising, bee farming, poultry farming, etc.) had been carried out by the forest department, but it was revealed that the office bearers on the VDC (president, secretary, etc.) had put forward their favourite people for such training. No trainings had been provided to women and members of the women's organisations (WO).

VDC nurseries were established in some of the project villages (Gulmera, Phaagal and Gujaro-khwore), and common villagers also had a chance to learn modern plantation techniques, etc. from the trained caretakers at these nurseries. Some of the farmers admitted that they had learnt some things from the caretaker of the nursery: when to plant particular fruit trees and how to take care of them during their initial growth phase. It can therefore be concluded that the institutional changes have contributed (although to a limited degree) to the enhancement of knowledge and skills, as well as to non-formal (extension) education. Similarly, during the VLUP process, VDC members' and some villagers' involvement in the land-use planning process had also contributed to improving their non-formal education. It can be concluded from the above discussion that the participatory forest management initiatives in the project areas encouraged participatory extension through the community-based organisations (VDCs). Some excerpts from the key-informant interviews are given below:

> "…….. We have our own nursery in our village and we not only can have fruit plants at cheap rates, but also the man who takes care of the nursery also told us about the plantation methods," a farmer from Gujaro-khwore said. The secretary of the VDC in one of the project villages reported, "……………….And then they [the forest offi-

> *cials] took me and other VDC members and we surveyed the whole village. They made a map of our village in which even small streams were indicated. Then they asked us to point out the regions where we want to grow new plants, graze our animals, etc. We did such thing for the first time in our life, and now I have realised the importance of planning before any act."*

The development of VDC members' leadership skills was another positive outcome of the institutional changes. Even though the elite and influential people in the village were chosen to be members of VDCs, the villages did intentionally select some educated individuals from their village to act as either President or Secretary of their VDC.

For example, the president of Phaagal village VDC stated, "Our secretary is an educated person. He is a dispenser [medical technician] by profession and belongs to a poor family. We selected him because he knows very well how to talk to the government officers and present our demands to them". Similarly various members of the VDC of Gujarokhwore villages told (in a focus group interview), "……….. our secretary is not a political person and his father is a small farmer. But he holds a graduate degree and is well-behaved. He worked so efficiently in the VDC that we [the villagers] selected him as our councillor in the local governments' election and now he is "nazim" (mayor) of the union council". An elderly farmer from Mansehra said, "……..the secretary [of the VDC] is a school teacher of government school and we are very happy with his work. I had asked him to leave the government job and contest for the election of the councillor. He can become a good leader, but he is not ready to leave his regular job".

The qualitative data presented above leads to the conclusion that the participatory forest management paradigm has considerable potential to enhance human capital through non-formal education.

The other side of the picture (regarding women empowerment and mainstreaming) was gloomy and bleak. Women's organisations existed only on paper in most of the project villages the author visited[16]. The extent of participation and the perceived performance of the women's organisation (WO) were very disappointing. The overall average of the perceived level of participation in the activities of WO by the members of the respondent's household and the fellow villages was low, whereas performance-wise the WOs were perceived as being very inactive. The qualitative interviews revealed the reasond behind the poor performance of the WO. The WOs existed in most of the project villages only on paper and they were undertaking practically no activities. The main causeof this that was reported was male dominance and the influence of religious groups in the rural areas of NWFP. A male is considered disgraced if his wife or sister comes out of the home and participates in the meetings (even in the female-oriented meetings of WO). A VDC member commented, "it is acceptable for us that the female staff [of FSP] meet our women and teach them how to run the affairs of the WO, but we cannot allow a male [social organiser] to do such job for the WO". Participants in a focus group interview with VDC members said that the female social organiser and the FSP female forestry extension worker visited their village during the early stages of the project and then never bothered to come to the remote villages again. Another reported cause for the disappointing performance of the WOs was the lack of capacity and leadership among women in the rural areas of NWFP.

Insignificant efforts have so far been made regarding women's rights and gender mainstreaming in the province. There are a lack of female organisers in the FSP. Although the forest department had acquired the services of female social organisers or female forestry extension workers in some areas, these members rarely visited the remote mountain vil-

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[16] During the fieldwork I visited about 15 project villages in Mansehra and Swat districts

lages. The female forestry extension workers complained about the lack of transport facilities. The qualitative interviews revealed that there were only 1-2 meetings of the WO during the initial phase of the institutional reforms, but after that there were no further WO activities.

7.1.5 Access to financial assets

Timber is a precious forest commodity, but commercial timber harvesting has been banned in NWFP since 1992. In the key-informant interviews, the respondents showed mixed reactions to the ban on commercial timber harvesting. The right-holders (forest owners) criticised the government for the ban and demanded that the ban be lifted immediately so that they could receive royalties from the forests. During a focus group interview with the VDC and members of the UC in a project village, the "nazim" (head) of the UC demanded that the ban should be lifted immediately otherwise they had decided to start the cultivating poppies in their fields to earn money.

"…you can see the trees are being removed illegally every day, and the ban has done nothing except increase corruption in the forest department. Then why shouldn't the ban be removed and allow legal timber harvesting, and thereby increase the financial resources of the villagers." the "nazim" remarked.

The researcher organised two forestry round-table conferences together with the Sustainable Development Policy Institute (SDPI), National Centre for Competence in Research (NCCR North-South), and Journalists for Democracy and Human Rights (JDHR), one each in Abbotabad and Swat districts. Most of the representatives of civil society (NGOs, councillors, local leaders, and forest owners) agreed that the forest had been depleted at a higher rate since the ban. According to a representative of the forest owners, "... when there was no ban, we received the royalty and in return we not only protected our forests from outside

intruders but also planted new trees. But after the ban we had no interest in the protection of forests". The VDC representatives demanded that the VDCs should be authorised to harvest the forests.

The representatives of the NGOs and civil society organisations participating in the round-tables strongly criticised the lack of consideration given to financial and economic aspects during the process of institutional changes to the forestry sector. The representative of IUCN argued during round-table conference that "If the people of Punjab [and lowland] can pollute the environment through the establishment of the industries to improve their livelihoods [financial capital], then why are the people from Hazara and Swat deprived of industrialization in the name of the protection of national wealth (forests)… The entire watersheds are in NWFP, which are very important for the people living in lowlands. The local people should be given benefits (in cash or through some other means) for the protection of tree." During the Swat round-table, the president of a VDC explained, "… It is very difficult for us to motivate people to protect the forests without giving them any economic benefits". The Divisional Forest Officer also admitted that the local communities' main demand was for financial benefits, but the participatory forest management system (in NWFP) had little financial implications, stressing forest protection and regeneration instead.

Qualitative interviews with forest officers revealed that, on one hand, they admitted that the forests had been depleted at a much higher rate since the ban, but on the other hand they argued that the ban should be continued otherwise the forest owners would remove the remaining forest within a few months. Similarly, the non-right-holders (non-owner forest users) also insisted that the ban should be continued but that needy people should be provided with timber without any obstacles. A lack of economic incentives is one of the main factors reducing the effectiveness of participatory forest management in NWFP. This finding endorses the views of Richards et al. (2003) who postulated that partici-

pation by local forest users in forestry projects has often suffered from weak economic incentives, a poor understanding of these intensive projects, and poor policy design. Steimann (2004) explained that most of the donor-driven projects put more emphasis on forest protection, while infrastructure improvement was far more crucial. The lack of drinking water and the absence of a road are problems that people feel every day, whilst deforestation is still a rather abstract topic.

7.2   Livelihood strategies

Impact of institutional changes on livelihood strategies and outcomes

The overall results regarding livelihood strategies indicated that a majority of local people (from both project and non-project villages) were not dependent on natural resources (forest, land, water, etc.) for their cash income, but have instead adopted diverse non-natural resource based activities such as migration, labour, small business, etc. Nevertheless, forest-use patterns showed that the majority of respondents were dependent on forest wood for their household needs (for example wood for house construction and repair, fuel wood, fodder and pastures for livestock, etc.). It can therefore be argued that forest resources contributed to the subsistence- (or non-cash-) oriented livelihood needs of the local people. Hence these results partially counter the popular assumption that rural people living in and around forests depend on forests for their livelihoods. People have instead adopted multiple livelihood strategies according to the assets they have available. In the context of institutional changes, it can be argued that although participatory forest management did not contribute towards the enhancement of cash-oriented livelihood strategies, the participatory approach has considerable potential to enhance the non-cash-oriented (subsistence) liveli-

hoods of people in project villages by reducing deforestation by limiting the amount of illegal cutting by outsider bandits.

Most respondents in project and non-project villages perceived higher or additional (and regular) income, sufficient food for their families, and better health as "good living". However, few respondents cited better physical infrastructure (roads, electricity, etc.) as the most important indicator of good living. The perceptions of respondents from project and non-project villages regarding 'good living' were very similar, and very few respondents prioritised better forest cover over income and food security. Therefore the issue of participatory forest management become quite complicated in the sense that the NWFP model of participatory forest management put greater emphasis on forest protection and the regeneration of new trees, whereas the priorities of the major stakeholders (forest dwellers) are a higher income and sufficient food. Nevertheless, some provisions for income generation are contained in the VLUP, for example through the establishment of nurseries, the distribution of fruit trees, etc. However, such activities are of little monetary value and very few people from the concerned villages were benefiting from this type of activity. Although participatory forest management had partially increased natural and social capital and reduced some of the factors of vulnerability, the omission of financial benefits from the institutional changes in the forestry sector of NWFP has been one of the main issues that has reduced the effectiveness of the forest reform process. Previously Richards et al. (2003) stated that participation by local forest users in forestry projects has often suffered from weak economic incentives, a poor understanding of these intensive projects, and poor policy design.

Another feature of livelihood strategies was that a majority of the respondents (of both project and non-project villages) were dependent on remittances received from migrant family members. Yet this important issue was not taken into account by the FSP. The livelihoods of respon-

dents were based in areas beyond those where their families lived. It can therefore be argued that forest conservation was of lower priority for these people (also see Section 3.4), whereas the project documents (ADB, 1995; Govt. of NWFP, 2001) indicated that state actors were committed to forest protection (without taking account of the local realities).

The institutional changes in NWFP might have had an impact on people's current livelihood strategies by employing rural youth for activities such as forest protection, new plantations, etc. and thus providing them with a regular source of income. Nonetheless, considering the finding that forest resources contributed significantly towards the respondents' subsistence-oriented (non-cash) livelihoods (for example, wood for household need, fodder, and pastures for livestock, etc.), it can be argued that the improvement of natural capital (forests) as an outcome of the institutional changes can partially guarantee livelihood security for the local people in the future. However the dearth of immediate incentives (such as easy institutional access to forest resources) was a barrier to motivating local people to protect the forests. Mogaka et al., (2001), while discussing the economic aspects of community forestry, stated that despite much greater emphasis on community-based approaches to forest management, there are few instances where this has actually managed to counterbalance the local-level opportunity costs associated with forests or to generate substantive economic benefits of a sufficient quality or quantity to compete on economic terms with the unsustainable use of forest land and resources.

7.3   Vulnerability context

The significant difference in the responses of project versus non-project villages regarding forest depletion and forest fires indicates that the participatory approach to forest management did reduce factors of

vulnerability related to the forest (forest fires, rate of deforestation). The qualitative interviews and observations confirmed that people in the project villages were more concerned about the forests of their area. The harmful consequences of forest degradation were highlighted during the VLUP process. For most people, these meetings and lectures were the first they had been to and they realised that protecting the forest was to their own benefit. Most VDCs fined transgressors and the members of VDCs themselves guarded the forests. Similarly, the people from the project villages were more careful regarding forest fires.

> *A councillor from Gujaro-khwore village (project) said, "…we had less forest fires as compared to our neighbouring villages. Our people are more watchful and cautious because during the last VDC meeting the forest officer had told them some precautionary measures to prevent the fires." While an old man of Spulbandi (non-project) village said, "…There were two or three forest fires in the forest of morgzar. We all know that the corrupt forest officers take bribes and allow the timber mafia to cut down trees, and then they set the forest on fire to hide their illegal acts." The secretary of the VDC of Gulmera village explained, "We can work in a better way if the forest officers co-operate with us. …We can show miracles by protecting and conserving the forests and I can say confidently that if VDCs are allowed to work independently according to the plan, then we can have the thick forests around us that I used to see about 40 years ago when I was a child." "…People must realise that if there are more trees in our mountains then we can have more tourists in our areas and it can increase our rizq (livelihood)," a member of VDC of Phaagal village stated.*

It can be concluded from the above results that the project interventions have controlled illegal cutting to some extent, new trees have been planted and deforestation has been reduced in the project villages. According to the ex-chief technical advisor of Siran Forest Development Project, one of the major achievements of the (participatory forest management) project was to minimise 'timber stealing' by the community. Qualitative interviews revealed that respondents from project villages who perceived an increase or an improvement in forest cover said that the improvement was due to the interventions of the newly created institutions VDCs. On the other hand, those who perceived that the forests had deteriorated said that the forest department was responsible for the reduced number of trees.

The conflicts over trees and forests were also reduced in the project villages due to VDCs' involvement in forest management. According to VDC members, more and more conflicts were now being resolved through the forum of the VDC. Similarly political conflicts and tribal rivalries had also been significantly reduced in project villages compared to non-project villages. The researcher participated in some VDC meetings and observed that representatives from different tribes and hamlets of the village freely discussed their problems and many minor conflicts were solved on the spot by discussion and understanding. It can therefore be concluded that the participatory approach to forest management reduced conflicts over trees and land, and between different tribes. It thereby reduced vulnerability by enhancing local people's social assets.

As for other indicators of the vulnerability context, respondents from both project and non-project villages were very critical of the failure of the government policies to reduce the rising levels of unemployment and food prices. In fact most of the key-informants blamed the government for higher food prices and unemployment. In a focus group interview with VDC members, the participants acknowledged that one of

the main reasons for deforestation was high unemployment among rural youth. According to the participants, the timber mafia bought the services of the unemployed village youths; they went into the illegal business of wood smuggling to earn money and to support their families. The VDC members demanded that the forest department hire the services the young people in the villages and pay them some money to protect the forest, plant trees and for other forestry activities. There were no considerable differences regarding the seasonality of the income resources between project and non-project villages, and it can therefore be concluded that the project interventions did not address this important aspect of vulnerability.

This chapter has presented the impact of JFM on the respondents' livelihoods. It showed that though the participatory forest management initiative in NWFP has improved people's access to some of the indicators of livelihood assets (particularly social and natural assets) and also reduced some of the factors of vulnerability, this improvement is still limited and not all residents in the project villages have benefited from the project intervention. Alongside a 'livelihoods perspective', it would be essential and pertinent to consider a 'stakeholders' perspective' of JFM in NWFP. The next chapter, therefore, specifically discusses and analyses the roles of various actors in the context of forest management in NWFP.

8   The actors' perspective

The policies, institutions[17] and processes (PIP) - or (in other words) transforming structures and processes - within the livelihoods framework are the institutions, organisations, policies and legislation that shape livelihoods. They operate at all levels, from the household to the international arena, and in all spheres, from the most private to the most public. They have a direct impact upon whether people are able to achieve a feeling of inclusion and well-being (DFID, 2001). The PIP box describes the governance environment in which livelihoods are constructed. As such it embraces quite a complex range of issues associated with participation, power, authority, policies, public service delivery, social relations (gender, caste, ethnicity), institutions (laws, markets, land tenure arrangements) and organisations (producer organisations, NGOs, government agencies, private sector). Decentralisation is one of the processes by which these relationships are delivered (Hobley, 2001).

The process of institutional change in the forest management policies (from top-down to participatory and decentralised) started as a response to institutional failure in most developing countries, and during the last decade institutional changes, devolution and participatory forest management paradigms have become major policy trends in the forestry sector of many of the world's developing countries (for example Dupar and Badenoch, 2002; Ribot 2002; Gilmour, 2003; Prasad and Kant, 2003; Springate-Baginski et. al., 2003). In most of these cases, either village-level institutions were formed to implement the participatory forest management system (for example Malla, 2000; Saigal, 2000; and Suleri 2002) or else the local governments had been given powers to manage the forests (for example Ribot, 2002; and Larson and Ribot, 2004). In the NWFP model of decentralised forest management, the

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[17] Institutions have been variously defined as the 'rule of the games', 'standard operating practices', 'routines, conventions and customs' or 'the way things are done' (North, 1990; DFID, 2001)

village-level committees (VDCs/WOs) have been given some authority (responsibility) to manage forest and other natural resources, to implement the village land use planning (VLUP), and to take up development activities to improve community infrastructure.

An analysis of various actors, their characteristics and relationships with one another, etc. may be a logical starting point to analyse a decentralised natural resource management programme (Larson and Ribot, 2004; and Nilsson, 2005). According to Grimble et al. (1995), many efforts at environmental management fail because they pay inadequate attention to the various stakeholders involved and their particular interests. The following analysis of the participatory forest management starts from the realisation that many actors are involved. Many of these actors will have their own reasons for becoming involved in the specific participatory venture (Geiser, 2001).

The key actors/stakeholders involved in the forestry sector of NWFP (as identified by previous researchers such as Ahmad and Mehmood, 1998; Zia, 2000; Suleri, 2002) are the local people and their traditional forms of organisation, as well as the state (forest department), timber dealers, and (recently) civil society.

In this chapter the decentralised model of forest management in NWFP is analysed by exploring the characteristics, roles, and the extent of the participation of and the interactions between the main stakeholders.

8.1   Local people

The people living in and around the forests are the most important stakeholders and (direct) users of the forest resources. The local people/residents, who provide the context of forestry, are the owners of the "guzara" (subsistence) forests, the right-holders, and non-right-holders/forest users (Ahmad and Mehmood, 1998; and Suleri, 2002).

Most of the local people live in poverty as the per-capita income of the forest-rich districts of NWFP is significantly below the national average. Rural people in mountain areas of NWFP were found to be vulnerable to diseases (both human and livestock), crop pests, unemployment, low rainfall, shrinking forests, deteriorating soil quality, an increasing rate of illegal cutting, unemployment, gender inequality, and many other menaces.

The forest-use patterns indicate intensive use of forest resources such as firewood and wood for fuel, timber to construct new houses or repair old houses, the use of forest pastures and fodder for livestock, mainly for subsistence purposes. Very few (local) people use the forest for commercial purposes, for example "qalang[18]" and to sell wood. The intensive use of wood as fuel for cooking and heating during harsh winters was essentially due to a lack of alternative sources of energy (Ali et. al., 2006). The results of this study also revealed that a majority of local people were not dependent on natural resources (forest and land) for their cash income and that the main livelihood strategy (source of cash income) for most local people was income received in the form of the remittances (domestic and foreign), followed by labour (daily wage), salaried work and farming (see Section 6.3). When asked to give their main priorities regarding their livelihood outcomes, most local people cited financial and food security, whereas very few people prioritised better forest cover over income and food security (Section 6.4).

These findings are of considerable relevance to the issue of participatory forest management. The NWFP model of participatory forest management put greater emphasis on forest protection and the regeneration of new trees, whereas the priorities of the local people are a higher income and sufficient food. For them, higher incomes, food security, improve-

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[18] The fee that right-holders receive from the gujars (nomads) as payment for grazing cattle is called "Qalang".

ments to the village infrastructure (for example road building, drinking water and electricity supply) are more important than the trees. Nonetheless, considering the finding that forest resources contributed significantly towards respondents' subsistence-oriented (non-cash) livelihoods (for example, wood for household needs, fodder and pastures for livestock, etc.), it can be argued that improvements in the natural capital (forests) as an outcome of the envisaged institutional changes (through the introduction of participatory forest management) can partially guarantee the livelihood security of local people in the future. However, the dearth of immediate incentives (such as easy institutionalised access to forest resources) was a barrier to motivating local people to protect the forest. Larson (2001) goes in the same direction when he says that the long-term commitment of actors, capacity and incentives for local communities are some of the crucial factors for effective decentralised resource management. Likewise, Richards et al. (2003) argued that participation by local forest users in forestry projects has often suffered from weak economic incentives, a poor understanding of these intensive projects, and poor policy design.

Besides this livelihoods-related mismatch between the intentions of the FSP and the expectations of local people, another dimension surfaced during field research. This concerns the noticeable lack of trust, of a friendly relationship and of interaction between local people and the forest department. Most of the people perceived the forest department as being solely responsible for the depletion of the forests. People's general perception is that the forest department works with the timber mafia and is selling their precious forests to outsiders. On the other hand, the forest department officials often blame local people for over-exploiting forest resources.

The issue of forest governance (in many countries) is highly dominated by the state versus community discourse (Saigal, 2000; Timsina and Paudel, 2003). The recent shift towards a participatory paradigm in

NWFP was expected to overcome the gap between these two important stakeholders. However our research indicated the persistence of mistrust even after implementation of JFM in the province. Trust takes time to build and when a society is pervaded by distrust, cooperative arrangements are unlikely to emerge (Baland & Platteau, 1998; and Pretty & Ward, 2001). Therefore, despite the fact that "new" participatory steps are being taken in NWFP, there is still a huge gap between the state and local people. Castro and Nielsen (2001) also argued that joint or co-management agreements between the state agencies and other stakeholders can set new conflicts in motion or cause old ones to escalate (Castro and Nielsen, 2001).

8.1.1   Participation of poor (marginalised) people

In order to probe into "whether the forest reform process has also taken care to include the marginalised (low income) section of the community?", the perceptions of respondents from project and non-project villages regarding their level of trust and their relationship with various institutions, the participation (of respondents or their family members), and the performance of these institutions were recorded with a Likert scale. The correlation of income[19] (per capita) and the perceived performance, trust, relationship and participation in various institutions was calculated (Table 12).

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[19] The respondents were asked to provide information about monthly and / or annual income earned by the members of their households from different sources.

Table 12 Correlation between income of the households and their trust in, relationship with, and perception of performance of and participation in various institutions (own survey)

Institutions	VDC	WO	UC		Jirga	
Village	Pro-ject	Pro-ject	Project	Non Project	Project	Non Project
Trust	0.359**	0.085	0.364**	0.408**	0.365**	0.501**
Relationship	0.309**	0.194*	0.298**	0.363**	0.301**	0.488**
Participation	0.437**	0.026	0.429**	0.505**	0.397**	0.475**
Performance	0.173*	0.308	0.134	0.221**	0.281**	0.198**

*The correlation is significant at the 0.05 level (2-tailed)
** The correlation is significant at the 0.01 level (2-tailed)

A significant positive correlation was found between the income and perceived levels of relationship with and trust of the respondents of project villages in various institutions, viz. VDC, UC and the "jirga". A similarly significant positive correlation was also found between household income and the extent of participation in and perceived performance of different institutions (VDC, WO, UC and "jirga"). In the case of non-project villages, significant positive correlation was found between a respondent's income and his degree of trust, relationship, participation and perceived performance of the UC and the "jirga". Positive correlations indicate that people with less income had less trust in selected institutions and that comparatively rich people (with more income) had a higher level of trust in the institutions. Similarly, households with a low income participated less in the activities of these institutions compared to households with a higher income level (as evident from the positive correlations of income with participation in different institutions).

The qualitative data collected from the case study localities validated the quantitative data results. The key informants said that the poor and

marginalised people were ignored during the VLUP process and the activities of the VDC / WO.

> *A poor cobbler of a project vilage said, "……….*
> *What are you talking about? Nobody listens to us.*
> *I don't know much about the committee [VDC],*
> *whose president is a "Sayyed" and most members*
> *are "Khans" and "Sayyeds" [the influential*
> *tribes]". "……………..No one has ever invited*
> *me to the meetings of the VDC. Yes! They have*
> *done some planting and repaired the road, but*
> *their overall performance is not satisfactory," said*
> *a poor farmer from another project village. The fo-*
> *cus group interviews and the round-table meet-*
> *ings with different stakeholders also revealed that*
> *the forest department selected villages for FSP in-*
> *terventions and the VLUP process that were com-*
> *paratively accessible by road while the far-flung*
> *and remote villages were not considered for the*
> *FSP interventions. Similarly, within the project*
> *villages, the inhabitants of remote hamlets of the*
> *same village were not as active in the activities of*
> *the VDC as those living in the central hamlets of*
> *the village.*

These results support the apprehensions of some previous researchers (for example Mogaka et. al., 2001, Duper and Badenoch, 2002; Larson and Ribot, 2004; and Kumar and Vashsht, 2005), that the local elites could dominate decentralisation to such an extent that they undermine the expected benefits of decentralisation. According to Duper and Badenoch (2002), "local people are not sharing equally in the benefits of development because access to the local decision-making process is not equal". The discourse on people's participation cannot hide the underlying tensions manifest in issues such as who should be allowed to participate (Geiser, 2001a), how, and who should be excluded.

Another related factor in this regards is that in the NWFP model of JFM, the term 'local people' is used to designate a homogenous group of people, and the participation of this 'group'is considered to be ensured by the system of decentralised forest management. In fact, the 'local people' of NWFP are very heterogeneous and are stratified into many groups based on income, caste, gender, religion, land ownership, etc.[20] A holistic analysis of the 'local people', their livelihood strategies, their resource-use patterns and power relations before the implementation of the participatory projects would have ensured the active participation of poor segments of the community in the project.

8.2   The state (forest department)

Forestry is a provincial subject in Pakistan (Ahmad and Mehmood, 1998). However, as forests are an important source of revenue, the provincial government wants to exert its full authority over forests (Poffenberger, 2000). The federal government is responsible for liaising with international agencies, ensuring compliance with international treaties, etc. The provincial government of NWFP manages the forest through the conservator of forests followed by the lower officials. Nevertheless, the forest administration in the province is based on the colonial approach (Ali et al., 2006). As a result of this non-participatory approach, the rate of forest depletion in Pakistan is one of the highest in the world (FAO, 2005). Responding to this, in 1996 ADB and some other donor organisations (German, Dutch and Swiss) initiated forest sector project (FSP) in collaboration with the forest department. The FSP mainly worked to boost the forest department's institutional capacity and has

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[20] The author conducted a quantitative study in eight randomly selected areas of Mansehra and Swat district of NWFP and considerable heterogeneity was recorded in terms of castes, income, literacy, professions, etc. (for details see Shahbaz, 2007)

brought some changes in the administrative structure of the forest department (also see Section 4.2). Within the forest department, a new structure was developed with the intention of decentralising planning and authority (i.e. by backstopping the VDCs and WOs), and to increase coordination and cooperation within the department (ADB, 1995; and Steimann, 2003), thus enabling the department to actually implement the new participatory forestry approach.

The qualitative data indicated that the lower staff in the forest department never accepted the new approach and they perceived that their authority and "source of income" were threatened.

As one divisional forest officer (DFO) said during the forestry roundtable organised by the researcher in collaboration with SDPI in Abbotabad, "The Forest Department has taken the lead among all other departments to involve/empower the communities in the management of forest resources. But quick changes in the attitude of a person (lower level foresters) who has been working in the department for a long time is very difficult and it is not easy for them to adjust to the new set-up. However we are learning slowly and moving towards the joint forest management system………." Contrary to this, the ex-chief technical advisor of the Siran Forest Development Project reported that the forest department continuously tried to create hurdles for the work of the joint forest management committees introduced by the project. Similarly, representatives of civil society organisations strongly criticised the forest department and accused officials of the department of taking bribes from the timber mafia and extracting the precious timber from the forests, and this is why they do not want the participatory system to succeed.

The qualitative remarks above indicate that some of the actors within the state (forest department) were trying to create obstacles to the work-

ings of new institutions. These actors fear that they will lose informal income (Geiser and Steimann, 2004) with the implementation of participatory approach. Strong political will is crucial for effective decentralised forest management (Ribot, 2002 and 2004), otherwise it just reinforces state control over resources.

8.3 Civil society

In the present book, the term civil society is defined as all sorts of organised institutions (in the context of the rural mountainous areas of NWFP) - excluding family, government and business – that aim for societal change (World Bank[21], 2002; and LSE[22], 2004). It thus includes "jirgas", non-governmental organisations (NGOs), community-based organisations (CBOs), volunteer social movements, religious groups, etc.

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[21] Civil society consists of the groups and organisations, both formal and informal, which act independently of the state and market to promote diverse interests in society (World Bank, 2002).

[22] "Civil society refers to the arena of uncoerced collective action around shared interests, purposes and values. In theory, its institutional forms are distinct from those of the state, family and market, though in practice, the boundaries between state, civil society, family and market are often complex, blurred and negotiated. Civil society commonly embraces a diversity of spaces, actors and institutional forms, varying in their degree of formality, autonomy and power. Civil societies are often populated by organisations such as registered charities, development non-governmental organisations, community groups, women's organisations, faith-based organisations, professional associations, trades unions, self-help groups, social movements, business associations, coalitions and advocacy group." (LSE, 2004)

i. Community-based organisations (CBOs)

Participatory (or decentralised) forest management system has created some new village level institutions (VDCs and WOs) in the project villages. As the institutions are democratic in nature, this represents new social capital for many households (see section 6.2.2). These institutions were selected (or elected) in a more or less similar (democratic) way in most of the villages. The process of establishing the VDC/WO and the VLUP is as follows. When a village is selected by the forest department, a team of officials from the department and FSP staff hold a general meeting in the villages to inform the villagers (in the project villages) about the objectives of the project interventions. The villagers were then urged to constitute the VDC (composed of 12-15 males) and WO (consisting of 10-12 females). The male FSP social organiser assisted with establishing the VDC, while the female organiser (usually female forestry extension worker) helps with the formation of the WO. The residents of various hamlets, and different tribes of a village select their respective members, and in turn these members elect (or select) the president, secretary, treasurer, etc. of their VDC and WO. These newly created institutions (VDC/WO) set their priorities regarding the improvement of village infrastructure, natural resource management (NRM), and training needs; and at the same time the FSP staff and the VDC/WO develop a village land use plan (VLUP) for the controlled use of natural resource and infrastructure developmental activities. A formal agreement is signed between the VDC/WO and the forest department.

Some of the objectives defined in the VLUP document are[23]:
- To make the community aware of the importance and proper management of their natural resources;

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[23] Source: Excerpts from the Village Land Use Plans of different villages, DFFW, Dist. Mansehra, Pakistan

- To bring the community towards a collective and self-help vision for their general development;

- To manage the natural resources of the village on a sustainable basis;

- To recognize and formalize the genuine role of the women in the natural resource development through their active involvement in natural resource management;

- To improve village infrastructure;

- To bring harmony and decrease social disparities by giving equal opportunity to everyone through human resource development.

In other words these institutions were expected to play a role that went beyond 'only forest-related' issues. However, it would be pertinent to mention here that the VLUPs were written in English and common people (even VDC members) were not able to read these. They had to rely on the information provided by the FSP and forest department staff. The results also revealed that, by and large, the common villagers did not participate in VDC meetings and activities and usually only (elected) members of these institutions participated in the monthly committee meetings. Although the VLUP stressed that common villagers should also be encouraged to participate in the activities of the VDC/WO, in practical terms very few common villagers participate in the meetings. The focus group interviews revealed that the respondents were unhappy with the performance of the VDC because the forest department or FSP representatives made various ambitious commitments to the communities during the VLUP process and the initial VDC meetings such as improvements to physical infrastructure (roads, water supply), income generation, and easier access to timber, etc. With the passage of time, the villagers became frustrated and disappointed due to the very slow pace of the VDC's development activities, and the uncooperative behaviour of the forest department staff. Members of the VDC in turn said that the forest department was more interested in planting trees and nursery-raising, while the local people and the mem-

bers of the VDC required that the village development activities should progress at the same time.

The general perception was that the forest department does not want this system to succeed as they fear that they will be deprived of their enormous authority over the forests. This finding was confirmed by the remarks of the former chief technical advisor of Siran Forest Development Project who strongly criticised the uncooperative attitude of the forest department. Moreover, due to frequent changes to forest policies in the past (Shahbaz et al., 2006), local people as well as the members of these institutions were unsure of how sustainable and lasting the current institutional changes would be.

Nevertheless these institutions (VDC) had motivated the local community to carry out some collective action, for example trail/road building and tree planting, etc. but these activities were on a very limited scale. The main barriers to the VDCs regarding being able to implement development activities were a lack of funds and of support from the forest department. The development of leadership skills among VDC members was another positive outcome of the FSP institutional interventions. Even though, in most cases, the elites and influential people from the village were chosen as members of VDCs, the villages did intentionally select some educated individuals from their respective villages to be either president or secretary of their VDC, who interacted with staff from the forest department, the district administration, and so on. Similarly, during the VLUP process, the VDC members' involvement in the village land-use planning process had also contributed to enhancing their non-formal education.

Women are important stakeholders and the main users of forest products, especially in the subsistence domain. Women are crucial for the sustainability of mountain communities and they share agricultural and livestock tasks fairly evenly with men. Traditionally they are responsible for collecting water, fuel wood and fodder, raising small livestock as

well as processing food, cooking, and caring for the children. They are, therefore, the first to be adversely affected by any degradation of natural resources because they have to travel long distances and spend more time doing these chores (Khan and Mehmood, 2003). However, women's participation in the VLUP process was negligible. The women's organisations (WO) only existed in most of the project villages on paper and practically no activities were being undertaken by the WOs (see chapter 7). The main reasons given for this were male dominance and the influence of religious groups in rural areas of NWFP. A male is considered disgraced if his wife or sister comes out of the home to participate in meetings (even in the female-oriented meetings of WO). Another reported factor in the disappointing performance of the WOs is the lack of capacity and leadership in the female population in rural areas of NWFP. The female literacy rate in rural NWFP is only 21.7% as compared to 59.2% for men. There have so far been only insignificant efforts made regarding women's rights and gender mainstreaming in the province. There is a lack of female organisers in the FSP. Even though the forest department had acquired the services of female social organisers or female forestry extension workers in some areas, they rarely visited the remote mountainous villages. If WOs can be properly organised, they could potentially bring about significant changes in gender mainstreaming in the rural mountain areas of NWFP.

ii. Non-governmental organisations (NGOs)

There are many NGOs working in the forest-rich district of NWFP, the most prominent being the "Sungi Development Foundation", which was established in 1989 as a non-profit and non-governmental public interest organisation. It was an initiative of a group of socially and politically active individuals from the mountainous regions of NWFP. The organisation is presently working in various districts of NWFP. The advocacy unit works in all the provinces of Pakistan. Sungi has re-

mained critical of state institutions, particularly the forest department. Sungi also helped to establish the "Sarhad Awami Forestry Ittehad - SAFI" (People's Alliance on Forestry in NWFP) in 1997, an alliance of various forest stakeholders who challenge the state forest reform process. Their common aim is to protect the forest and people's forest rights, and SAFI argues that these rights are not properly taken into account in the FSP-led initiative towards participatory forest management.

There are also some district-level NGOs (for example Hujrah in Swat and Haasshar in Mansehra districts) working on capacity-building and community organisation to improve natural resource management in the upland areas of NWFP with support from international donor agencies. Sungi, SAFI and some other local NGOs have played an important role in creating awareness about issues such as community rights to natural resources, human and legal rights, women's role in development, etc.

The Sarhad Rural Support Program (SRSP) – an NGO supported by the government – was established in November 1989 with the objective of reducing poverty in the rural areas of NWFP through a participatory community-mobilising approach. SRSP is presently working in ten districts of NWFP covering Charsadda, Karak, Kohat, Hangu, Peshawar, Nowshera, Battagram, Mansehra, Abbottabad, and Haripur. It is engaged in a broad spectrum of development activities. Its various programme components include social mobilisation, natural resource management, and human resource development. SRSP has also established village-level organisations and youth committees in various villages. One of SRSP's main programmes is a micro-credit programme and the use of participatory approaches to development.

Initially, the FSP process provided considerable space for NGOs to get involved in the planning, implementation and monitoring of the process (Suleri, 2002). Some NGOs (Sungi, Sustainable Development Policy Institute SDPI) were invited to participate in the planning stage of the

FSP. However, the involvement of these NGOs was reduced once the project had started and the forest department had received funding from donors. Most civil society organisations and NGOs are quite critical of the approach of the forest department, and accused the forest department of not being willing to decentralise the forest resources in the true spirit. During the forestry round-table discussions researcher organised together with the SDPI and Journalists for Democracy and Human Rights (JDHR) in Swat district, NGO representatives were quite critical of how insignificant their representation in the reform process was, and they demanded that the NGOs and CBOs (such as VDC) be included in the JFM activities. The vice-president of SAFI emphasized the need to enhance people's sense of ownership in forest management and suggested that there was still a need to review the whole process in order to make some necessary amendments to forest policy. He criticised some of the provisions of participatory forestry and argued that the leading role in this system had been assigned to the divisional forest officer rather than to the communities.

One of the main problems with the decentralised forest management system in NWFP is that the state still holds the key decision-making powers. Ribot (2002) writes that decentralisation is not about downsizing or dismantling central government; rather, it calls for mutually supportive democratic central and local governance. Despite the continued emphasis on devolving forest management authority to local communities, in practice there has only been very limited genuine devolution of authority and power over the forest. Nevertheless, strong political will is crucial for effective decentralised forest management otherwise it just reinforces state control over resources.

Local people, however, have mixed perceptions of these NGOs. Many people (especially religious groups) believe that these NGOs have some hidden (Western) agenda and that they want to spread Western culture in the area, while other people appreciate the development work done

by the NGOs. In many of the villages visited by author, two or three or even more CBOs formed by FSP, Sungi, SRSP, etc. were found to be working without any formal collaboration or interaction. During the field surveys, there was found to be a general lack of integration of efforts and coordination among the various NGOs working in the forest areas of NWFP.

iii. "Jirga" – the assembly of elders

"Jirga" means council, assembly or meeting in the Pushto language. It may also refer to a community council of elders. The "jirga" is normally composed of elderly males and most of them belong to the dominant tribes of a village. The youth, women, minorities and (sometimes) less powerful or small tribes in the village are not represented on the "jirga". The role of the "jirga" is to resolve conflicts. However, the qualitative interviews revealed that the civil society role of the "jirga" to initiate social movement on its own was very limited, but other civil society movements such as NGOs, CBOs, and donor-driven initiatives had to get the support of the "jirga" if they wished to penetrate into rural society and get wider acceptance for their interventions. The direction and support provided by "jirga" members is considered an important step in getting local people to participate in all kinds of development work. It can be concluded that the "jirga" can act as a catalyst in gearing up social movements the "jirga" members consider socially acceptable. However, the male-oriented, male- and rich-dominated "jirga" is perceived by development NGOs as a barrier to gender mainstreaming and equity in rural society in NWFP.

Analysis of the data collected regarding the collective action of the local people in development activities such as the construction and/or repair of roads, water supply schemes (Section 6.2.2 iii) and tree-planting, revealed that significantly more people from the project villages contributed to such activities than from non-project villages. Respondents

who - or whose family members - contributed to such activities were asked what motivated them to take part in such activities. In the project villages, VDC was the main stimulus for people to participate in such collective actions, whereas in the non-project villages, the "jirga" and the mosque were the major motivational forces. It can be concluded that the new (democratic) institutions (VDCs) created by the participatory approach to development had encouraged collective action and provided a forum for the collective actions of the communities. It can also be concluded from this discussion that the new (democratic) institutions (VDCs) created by the participatory approach to development in some cases have the potential to replace the practical use of traditional (orthodox) institutions such as the "jirga" and the mosque.

iv. Religious groups

The majority of the rural population of Pakistan in general and of NWFP in particular is Muslim, and the religion has deep roots in the culture and traditions of society. The religious leaders, who belong to different school of thoughts (or sections of Islam), are widely respected by their followers. Most of these people have been trained and educated in the confined atmosphere of the "madrassah" (the religious school) and are orthodox and conservative by nature. The religious leaders such as an "imam masjid" (the one who leads the prayers in a mosque), "pir" (the spiritual leader), "teblighee" (one belonging to a particular preaching sect/group of Islam) initiate religious and related social change movements. The "imam masjid" motivates the people (particularly in Friday prayers) to carry out activities and tasks for the betterment (according to their own vision) of society in traditional ways. They rarely propose using innovative and strategic measures to change society. Similarly "tablighees" (the preachers) go from home to home, knocking on doors and inviting people to listen to them. During their speech, they use arguments based on people's fear of hell and

punishment after death as well as incentives of heaven and rewards. They motivate people to support their task of persuading other people to obey God by doing good deeds and avoiding bad deeds. Their approach is mainly religion-oriented and does not include the development of society in general.

The "pirs" (spiritual leaders) belong to the "Sufi" school of Islamic thought and they try to solve people's spiritual problems. Their followers are mainly poor, illiterate and orthodox people. The followers obey the orders of the "pirs" to please them.

One of the obstacles to gender mainstreaming and the effectiveness of the WOs is the strong influence of religious factions in rural NWFP. According to Sattar and Baig (2001), "throughout 2000, NGOs were subjected to repeated verbal assaults by religious leaders. The attacks came despite the support extended by the government ministers to NGOs calling for their inclusion in advisory panels and in undertaking work at the grassroots level. Religious extremists continue to accuse development and advocacy-oriented NGOs of working against 'national ideology' by spreading liberal and secular values". In spite of the fact that the religious groups have deep roots in the socio-cultural settings of the rural NWFP and the fact that the current provincial government is also an alliance of various religious parties and groups, there is not much deliberation about the involvement of such groups in the FSP-led institutional reform process. A speech by an "Imam Masjid" in a mosque about the importance of trees and forest protection can be much more effective at changing local people's attitudes than a lecture by a forestry official. However, this important aspect was ignored in the FSP. Although the mosque was used (in some study villages) to announce regarding VDC meetings, the involvement of the "Imam Masjid" in the activities of VDCs, awareness-raising campaigns, tree planting activities, etc. was generally negligible. How to involve local religious groups in a development programme to diffuse innovations in

society is a challenge that should be considered at the time of pro-
gramme planning.

8.4 Local governments

The forestry sector was among the few sectors that were not devolved
under the devolution plan, and the provincial forest department re-
mained the main 'custodian' of the forests (Geiser, 2002). However, the
farm forestry component was devolved and handed over to the district
administration. Therefore, regarding natural forests, there is no formal
link between the local governments (UC) and the forest department.
Similarly the district governments have no formal influence on matters
pertaining to natural forests. Nor do the VDC and WO have any formal
interaction with local government. The links between these two impor-
tant actors exist only informally, i.e. in cases where the UC member is
also a VDC or WO member. In such cases, the institutions work more
efficiently than ones where the UC members are not also members of
the VDC and WO. Similarly, there was greater trust and a better rela-
tionship to the UC in project villages where the UC members were also
"active" members of the VDC. This is due to the fact that the villagers
had more opportunities to interact with their councillors (members of
the UC), and the councillors also supported the development activities
carried out by the VDC. The relationship and trust between the local
community and the UC is better than with state institutions (the forest
department).

Communication gaps and mistrust were also found to exist between
local governments and the forest department during the qualitative
interviews. A DFO remarked, "The local governments and the ministers
are pressurizing us regarding timber permits, transfer of staff, etc. They
are less interested in the forestry matters. The permits [for timber] were
issued by the DFO but now the DFO issues the permits with the rec-

ommendation of the "Nazim". But in each and every case the "Nazims" recommend the permit, they never deny it to anybody. They have to do this for political reasons; they have to please their voters and contest the election again." Another DFO said, "………..Forestry is the lowest priority for local governments; they don't even bother to reply to our letters." On the other hand, the representatives of the local governments (for example councillors) are very critical of the forest department and accused it of working against the interests of the communities.

This qualitative data shows the lack of trust between local governments and the forest department. Researchers have emphasized the importance of empowering local governments if there is to be effective decentralised forest management (for example, Mogaka, 2001; Dupar and Badenoch, 2002; and Siry et al., 2005). Various case studies have indicated that local governments/institutions have been able to demonstrate capacity and initiative in natural resource management (Ribot 2002 and 2004; Dupar and Badenoch, 2002). However, in NWFP, the local governments have limited influence on forestry-related activities. Case studies from different countries suggest that many poor outcomes (of decentralisation) are associated with incomplete decentralisation processes (Shackleton et al., 2002; and Ribot, 2004). This is why Kälin (1999) has called for a holistic decentralisation procedure.

8.5 The timber merchants

Strong (informal) linkages exist between the forest department, political elites and the timber mafia. The forest department is accused by the civil society of being involved in the illegal timber trade and facilitating the timber mafia (Ali et al., 2006). Some of the politicians and even members of the national and provincial assemblies are also believed to support or be part of the timber mafia. For honest foresters it becomes quite a difficult job to catch the real offenders. During a field interview,

a forest officer told that once he caught a truck fully loaded with wood logs and handed over the offenders to the police, but the very next day when he was standing on the roadside, a car hit him and as a result his leg was broken. According to him, the car belonged to the timber smugglers, who took revenge by hitting him.

> *A DFO said, "……….Whenever we catch a big criminal, my telephone and personal mobile phone start ringing with the calls from influential persons who want the offenders released."*

The above statement indicates that the timber smugglers are far more influential and powerful than the law enforcement agencies. The other side of the picture was revealed in interviews with members of VDCs and with some other members of civil society. Most of the key informants explained that forest department staff were involved with the timber merchants (mafia) and were extracting precious wood from the forests for a few thousand rupees.

Participatory forest management led to a significant reduction of illicit cutting in the project villages (with participatory approach) compared to the non-project villages, giving some indication that strengthening the sense of ownership and responsibility at local level might be of use.

The qualitative data revealed that the residents of such villages were much more watchful than people from non-project villages regarding the protection of their forests against outsiders, and a significant reduction of illegal cutting was recorded in these villages. Participatory forest management can be an effective strategy to deal with the timber mafia by developing a sense of awareness and ownership among forest residents.

Figure 12 Local people carrying wood from the forests; right above: a
small boy carrying wooden logs (photos by the author)

However, as the lower- and middle-level staff members of the forest
department were uncooperative because they fear losing the additional
money they make in bribes from the timber mafia, they are not open to
a participatory process. Not surprisingly local people view forestry staff
as unsupportive and as an obstacle to the success of the joint forest
management system.

9   Dilemmas in JFM in NWFP

Based on the insights gained in the present study, some issues that hinder the effectiveness of the institutional change process are identified and given in this chapter.

The local people in NWFP are the main users and stakeholders, however **the 'local people' are heterogeneous and stratified** by income, caste, gender, religion, land ownership, etc. Yet the JFM model in NWFP assumes 'local people' to be a homogenous group of people and that the system of decentralised forest management ensures the participation of this 'group'. A holistic analysis of these 'local people', their livelihood strategies, resource-use patterns, and power relations before the implementing the participatory projects would have ensured the active participation of poor segments of the community in the project.

The state had kept its firm control over forests through centralized and top-down forest management policies and colonial practices. The effect of such non-participatory approaches (in the past) was that local stakeholders lost their sense of ownership because they were no longer seen as stewards of their forests, and their rules and regulations for the management of the forests became worthless. An open-access situation was therefore created by the levelling-out of local institutions and rising transaction costs for the state due to weak institutions. In NWFP this led to forestry being opened up to the **timber mafia** (in connection with state officials) and to an informal institutional set-up driven by market demands emerged due to the absence of efficient and sophisticated institutions to replace the government failed institutions. As this becomes clear to local stakeholders, it erodes trust in state institutions even further, as they are seen as a means for the more powerful to get access to the forests. Therefore local people see no interest in forest protection.

The participatory approach to managing the forests was initiated through a donor-assisted project (FSP) in 1996, meaning that it did not

arise from local collective action. This was because conditions were such that the actors with the most bargaining power benefited a lot from the local open-access constellation and they therefore saw no need to change the institutional setting. Yet as participation became a mainstream tenet of development, forestry projects were funded which required the establishment of village-level committees, for example VDCs and WOs. The stated objectives of these committees indicate that their mandates went beyond forest-related activities (Govt. of NWFP, 2001), but in practice the forest department put greater emphasis on forest-protection activities and ignore the social and development components of the project. The forest department has a mandate to manage forests (which have mainly been declared various types of state forests) with the specific aim of supplying timber to the nation and to safeguard the forests' ecological functions. While decentralising forest management, the department has maintained the same priorities, while local people actually use forests in a variety of ways, among which subsistence needs (e.g. firewood, soil, timber for house construction) take priority. Financial livelihood concerns are not met by the forests (e. g. by selling timber) but by migrating to sell labour. Local people's top priorities are to secure the financial means required for a living and the related basic needs (e.g. physical infrastructure, schooling, health). Their expectations of VDCs are therefore focused in these areas.

The results of the study also revealed that forests were one of the most important natural assets for the people living in forest areas. Although the forest resources were not contributing directly to their cash income, the (indirect) benefits received from the forests - for example, the use of forest wood for heating and cooking purpose, construction timber, the grazing of animals on forest land, etc. - enabled local people to spend their money in other ways such as food, education, medical treatment, etc. However, the institutional changes did not make institutionalised access to the forest any easier for the residents of project villages than

for people from non-project villages (see Table 3). The respondents in the project villages perceived their access to the forest resources as being as difficult as that of respondents from the non-project villages. This situation did not match the high expectations of residents of the project villages. Access to construction timber for residents of project villages was more difficult than for people from the non-project villages because of the close watch kept by members of the VDCs. On the face of it, this development seems positive in the context of the forest protection, but for poor people, cooking for their families (fuel wood) and keeping their houses in good condition (timber) was more important than forest conservation.

Similarly, perceived livelihood outcomes indicated that local people's main priorities were income and food security. The **omission of (immediate) economic and non-economic incentives** from the FSP model of participatory forest management implemented in NWFP was one of the main factors hindering the JFM from being successful. During a round-table conference (organised by the NCCR and SDPI), the representatives of civil society organisations and some VDC members demanded that local people be provided with incentives to protect the forests because these forests are crucial to sustaining the water supply for irrigation in the lowlands.

It would boost local people's confidence in the participatory forestry system if they were provided with alternative sources of energy (for example, LPG or electricity) at subsidised rates and easier access to timber, etc. as a reward for regenerating and protecting the forests. There is a need to involve stakeholders (particularly local communities) carefully during the project planning stage. Without an enhancement of their human, physical and financial assets, it is difficult to uproot poverty and to ensure sustainable forest development. The institutional changes must be holistic if they are to be seen as increasing people's assets and improving their livelihoods.

The **development of human capital is considered** (for example see Belcher, 2005) as one of the main outcomes expected of the JFM. However, the FSP contained very few provisions to enhance the human capital of the common villagers. The improvement of leadership skills among the office bearers (president, secretary etc.) on the VDCs can be regarded as one of the positive effects of institutional changes, but for most of the (common) villagers, there was no change in this respect. Although there were some nursery-raising training activities in some project villages, this training were given to people who had a good relationship to the president or to other VDC officials.

During the VLUP process and the initial meetings of the VDCs, various (ambitious) commitments were made to the communities such as improvements in the physical infrastructure (road, water supply, etc.), income generation, and easier access to construction timber, etc. In fact, improving village infrastructure was one of the VLUP's main objectives, and the forest department was supposed to contribute 70% and local people 30% (either in cash or labour) to the development activities. However, as time passed, the villagers became frustrated and disappointed due to the very slow pace of development activities and the uncooperative behaviour of the forest department staff. The **divergence of interests between the forest department and the local communities** (and VDCs) is another factor that hindered the success of the participatory forest management scheme.

Underlying the divergence of interests mentioned above is a historically rooted **mistrust between local people and the state** on the one hand, and the unwillingness of actors with high bargaining power such as forestry department officers to devolve power on the other. Therefore the new institutions and organisations created for the process are not stable. The department is not willing to really fulfil the demand for a devolution of power, while local people have the continuing perception that the forestry staff is not trustworthy. For the NWFP forestry de-

partment this would clearly be a major loss, while local governments, villages and households do not really have a say. Therefore the new institutions and organisations created for the process are not stable: the department is not willing to really fulfil this demand for a devolution of power, but on the other hand, local people have a continuing perception that the forestry staff is not trustworthy.

Timber is an expensive good locally, and the most powerful actors within the state as well as inside the communities are not interested in changing the informal institutions based on the weak formal institutions, because they end up on the losing side. For the actors with less bargaining power, such participatory approaches might be of interest if they were developed together with them. Otherwise, there is no use in getting engaged for they have nothing to gain and their power to redress the institutional setting is very limited. The participatory forest management could be an effective strategy to deal with the timber mafia by developing a sense of awareness and ownership among forest residents.

However, there is another weakness in the new institutions. The responsibility (as delegated by the state) of these newly created institutions is focused more on protecting the forests than managing them, meaning once more that no sense of local ownership can evolve. In addition, **the state holds the key decision-making powers**. The village committees are tightly controlled by the forest department too and are therefore unable to act independently. The officials from the forest department who are earning money from (illegal) timber sales are not fully cooperating with the local committees. As a result, the members of these committees and local people are losing interest. Under these conditions, neither trust and good relationships, nor sustainable forest management can be expected. There are very few incentives for the committees to protect the forests, while changing the status quo would mean that the most powerful actors would stop profiting from timber.

Moreover, due to frequent changes to forest policies in the past, local people as well as VDC members were not sure how **sustainable and lasting** the institutional changes will be. Under these conditions, neither trust and good relationships, nor good governance can be expected.

The historical background with its ineffective top-down policies has led local actors to a situation where they do not believe that the existing institutional structures can be changed easily. Mistrust and insecurity have therefore produced a kind of prisoner's dilemma in which each side is behaving as if there were no participatory approach. Neither the state actors, nor local government, nor actors at local level are willing to cooperate. The consequence is high deforestation rates and an institutional instability that makes it difficult to erect robust institutions even though commercial timber harvesting has been banned.

Another institutional problem is the fact that there is **no formal link between the local governments and the forest department**. Therefore there is no coordination between these important institutions. The main reason for this weak link is that the forestry sector was one of the few sectors that were not devolved (not handed over to the local governments), and the provincial forest department is the main 'custodian' of the forests. Yet evidence from developing countries (for example Malla, 2000; Shackleton et al., 2002; Miyuki and Boonthavy, 2004) indicates that local governments have been able to demonstrate capacity and initiative in natural resource management. Effective decentralisation requires some degree of local participation to ensure that local government is responsive to local needs. On the other hand, the process of decentralisation can itself enhance participation by placing more power and resources at a level of government that is closer to the people and therefore more easily influenced (Bergh, 2004).

 Decentralisation is not about the downsizing or dismantling of central government; rather, it calls for mutually supportive democratic central and local governance (Ribot, 2002). Despite continued emphasis on

devolving forest management authorities to local communities, in practice there has been very little genuine devolution of authority and power over the forest. In most cases, the recurring problems of implementing decentralisation processes and policies are not flaws inherent to decentralisation. Rather, they are a result of poorly designed decentralisation policies, procedural weaknesses, and a lack of pragmatic implementation strategies (Kulipossa, 2004). Nevertheless, strong political will is crucial to effective decentralised forest management, otherwise it simply reinforces state control over resources.

Women play a central role in household activities as well as activities related to natural resources. Yet the **poor performance of women's organisations** (WO) was another factor hindering the effectiveness of participatory forest management. The women's organisations (WO) only existed in most of the project villages on paper and practically no activities were being undertaken by the WOs. There is a need for capacity-building for rural women. Traditional institutions such as the "jirga" and religious groups should be taken into consideration and through continuing education a change in attitude is possible.

Various non-state, non-business groups are trying to operate within this contested political space. They include more modern forms of NGOs, the traditionally powerful "jirga" and groups working to foster traditional values (for example religious organisations). However on the one hand, **the FSP does not really engage in a dialogue with these social entities** and, on the other hand, these entities are not themselves in a position to initiate a change in local resource use.

A participative approach has first to analyse the power and interests of all actors involved before making recommendations (Castro and Nielsen, 2001; and Gardener et. al., 2001). The difficulty is that one has to deal with formal legal instruments and informal rules of the game in a high-priced business, where power asymmetries and violent conflicts are often the case (Hobley, 1996). Confidence can only be build up be-

tween the state actors and local people/governments if real devolution of power takes place (Kälin, 1999; and Fisher, et al., 2000), such as that local, clearly defined social entities are given the right to manage the forests within locally defined by-laws. In specific situations, there has to be a proof that state actors help local stakeholders to enforce these regulations against various kinds of free-riders. Under pressure from powerful traders and outsiders, this cannot be always completely left to local people, neither to communities, for there is asymmetry in power (Sundar, 2001; and Dahal , 2003). However, this would in turn mean that state officials have to be well-paid for such a difficult job, so that they gain more money from doing their job properly than they get from the timber mafia. In the same way, the benefits for local communities, partly directly at household level, has to be felt clearly to give them an incentive to protect the forest (Richards et. al., 2003). Therefore halting forest degradation in these areas and improving livelihoods doesn't just need more participation on paper but also in reality (Ribot, 2004), in which gains are higher than losses and in which mechanisms are built in to punish all free-riders.

Confidence and trust can only be developed between the state actors and local people/governments if the local institutions are given the right to manage the forests in locally defined by-laws (Lareson, 2001; and Ribot, 2002 and 2004). It is important that the state actors help local stakeholders with the decentralised forest management. But this in turn means giving ownership to the local level with the backing of a state that has well-paid staff so that they will not take bribes from commercial and mafia-like traders. Through these measures, layers of positive and trustworthy series of experiences can be built up, creating in the end a firm relationship of trust between the state and local communities.

Supporting factors

Some of the factors/issues that supported the institutional change process are described below.

The model of participatory forest management introduced by FSP has considerable potential to enhance the project villages' natural capital, particularly forests, for example, through less deforestation, the planting of new trees, a reduction of illegal cutting, a reduction of the number of forest fires, etc. It can be argued that improvements in natural capital (forests) as an outcome of the institutional changes can partially ensure the livelihood security of local people in the future. The results indicate that a sense of awareness regarding forest protection was being created among the community after the implementation of the FSP. Participation in decision-making (for example VLUP process) has created a sense of ownership among the local community, for example a reduction of illegal cutting and the protection of forests by the inhabitants of project villages from outsiders, as well as new tree planting.

Participatory forest management had also increased some of the social assets of the project villages, for example greater trust and a better relationship between respondents from the project villages and other tribes, the local government, the forest department, and a reduction of conflicts over forests and land. It is pertinent to note that, although, the residents of the project villages stiil had relatively little trust and weak relationship, these were still significantly better than in non-project villages. The VDC as an institution had motivated the local community to engage some collective action, for example trail/road building and tree planting, etc.

With the establishment of women's organisations (WOs), rural women have the possibility to get involved in development activities and decision-making. Nevertheless, there is stiff opposition from males who consider women's involvement in WOs as contrary to religion and cul-

tural norms. Although real and meaningful change will take time, the institution of women-based CBOs and local government system is nevertheless a very significant and positive move towards the politicisation of women and to bringing them into the mainstream. Some development work had been carried out (though at very limited scale) in the project villages, for example the construction of link roads and water supply schemes.

10   Conclusions and Recommendations

The case study in this book is based on the efforts by state authorities in Pakistan's North-West Frontier Province (NWFP) to decentralise the planning and implementation of forest management. In the context of a donor-supported initiative (FSP), the provincial forest department was reformed, and VDCs/WOs were formed at local level. These committees were authorised to prepare and implement local resource-use plans jointly with forest department officials. The FSP developed and implemented these processes in a number of villages, expecting the reformed forest department to spread the concept throughout the province. This book analysed the impact of participatory forest management on (access to) livelihood assets, vulnerability and livelihood strategies based on a comparison of randomly selected project villages with non-project villages. This enabled the author to identify the issues supporting or hindering the effectiveness of forest reforms and participatory management process.

This chapter presents the main conclusions of the study, as well as recommendations and directions for future research.

10.1   Conclusions

The forests are important **natural assets** for rural people living in mountain areas of NWFP. Forest-use patterns of the study sites (project and non-project villages) were very similar. The wood from forest trees was intensively used for cooking and heating purposes as well as for building and repairing houses, while forest land was also used as pastures for livestock. However, the use of forest trees and land was mainly for domestic/subsistence needs rather than for income generation. The perceived density of forests was "low to average". However, it was slightly higher in the case of project villages than in non-project villages

although this difference was statistically non-significant. Similarly, the perceived institutional access to forests was 'difficult' and no significant difference was found in the responses of the respondents of the project as compared to non-project villages.

The legal restrictions to access to forest resources had forced the respondents to adopt other (illegal) means, for example by paying bribes to the foresters or purchasing construction timber on the black market. Nevertheless, a positive outcome of the participatory approach was increased awareness among the residents of the project villages regarding forest protection as indicated by the significant difference between the responses of project and non-project villages regarding the reduction of illegal cutting and changes in forest cover. It is therefore concluded that institutional changes had a positive impact on natural capital (forests) in NWFP, and it had raised the awareness of local people about forest protection and conservation.

Due to the absence of an effective agricultural extension system, local farmers (in project as well as non-project villages) were using time-old traditional techniques of crop and fruit production, and were obtaining very low yields of wheat, maize and other crops. The introduction of drinking water supply schemes by the VDCs in some hamlets of the project villages was a positive step; however these schemes were limited to a very small number of hamlets in the village and the majority of respondents (of the project villages) still had no access to piped drinking water.

Regarding **social assets**, significant differences were found in the trust and relationship of the respondents from project villages (with other tribes, and members of the UC and forest department) as compared to respondents in non-project villages. The (collaborative) activities of VDCs, UC and the various tribes of a village increased the interaction between these institutions. The results also indicated that the participatory approach had encouraged collective action in the project villages,

and in some cases has considerable potential to replace the practical use of the traditional (orthodox) institutions such as the "jirga" and the mosque. This indicates the positive impact of participatory forest management in NWFP.

Although the level of trust and relationship between state actors and the respondents of project villages was slightly better than in non-project villages, it was not very striking. The results indicated that forest department staff and outsiders were the most powerful interest groups and that they did not allow the committees (VDCs) to do their job. Corruption and bribery were common in the forest department of NWFP. The members of local level organisations accuse the forest department of having an uncooperative attitude. This lack of trust and of a friendly relationship between communities and the state is one of the vital issues hindering the effectiveness of the participatory forest management in NWFP. The shift towards a participatory paradigm was expected to overcome this gap. However, the results showed that most of the respondents still perceived the forest department as being solely responsible for the depletion of the forests and an obstacle to the success of the participatory system.

The level of participation and perceived performance of the women's organisation (WO) was very disappointing. The overall results regarding the perceived level of participation in the activities of WO by the members of the respondent's household and fellow villagers was very low, and performance-wise the WOs were perceived as very inactive. The lack of female social organisers and transport facilities (in the forest department), illiteracy, and cultural norms were some of the reported causes of WOs poor performance.

The project interventions did not contribute towards most of the indicators of **physical assets**. The construction of the link roads was the only positive outcome of the FSP as regards physical capital. The respondents had high expectations regarding the improvement of educational

institutions and village infrastructure, but such activities are a lower priority for FSP staff. Access to construction timber was more difficult in the project villages than in the non-project villages due to the vigilance of the VDCs. The legal means of getting timber (by permit from the forest department) was quite complicated and involved a lot of red tape. In the context of institutional changes, the access to construction timber can be made easier and simpler by involving and empowering VDCs and UCs in the process.

However, the project interventions had (indirectly) contributed towards the enhancement of some of the indicators of physical capital, for example a better quality service at the primary school. This change may be attributed to the institutional changes because, in the project villages, the social gatherings (meetings) were held at the school and the school teachers became more dutiful.

The results regarding **human assets** indicated that no significant differences were to be found in the family size of the respondents from project and non-project villages. This shows the homogeneity of both samples with respect to family structure. The adult illiteracy rate was high and no major differences were found in adult literacy levels between the project and non-project villages. Nevertheless, considerably more children (male and female) from the project villages were attending school than from non-project villages. This was attributed to a better quality educational service in the project villages and increased social capital (interaction with government officials, other tribes etc.). Regarding access to non-formal extension education, the results indicated that the participatory forest management initiatives in the project areas encouraged participatory extension (and non-formal) education through community-based organisations (VDCs).

Regarding access to **financial assets** most of the respondents from the project and non-project villages had only one source of cash income. No major difference was found in the number of income sources between

the respondents' households in project and non-project villages. The expenditure patterns of the respondents' households in project and non-project villages were similar. The respondents allocated the major share of their expenditure to food, medical treatment and fuel wood, while they spent less on goods and services such as housing and education. Any negative trend and shock to income-generating activities may directly affect food consumption as well as medical treatment and thus increase the incidence of diseases and food insecurity. The absence of financial considerations in the forestry reforms was criticised by the representatives of civil society.

The overall results regarding the **livelihood strategies** indicated that the majority of local people (in both project and non-project villages) were not dependent on natural resources (forest, land, water, etc.) for their cash income but had instead adopted diverse non-natural resource based activities. Remittances (domestic and foreign) were the main (primary) contributor to household income. It can therefore be concluded that migration (either domestic or international) was the main livelihood strategy for most of the respondents from project and non-project villages, followed by the daily wage-workers. Nevertheless, forest-use patterns illustrated that most respondents were dependent upon forest wood for their household needs. It can therefore be concluded that forest resources contributed to local people's subsistence-oriented (or non-cash) livelihoods.

In the context of institutional changes, it can be argued that, although the institutional changes in the forestry sector did not contribute towards the enhancement of cash-oriented livelihood strategies, the participatory approach had enhanced the non-cash- (subsistence-) oriented livelihoods of the people in the project villages by slowing down deforestation through a reduction of illegal cutting by outsider bandits.

The results regarding perceived livelihood outcomes indicated that respondents' main priorities were financial security and food security,

while none of the respondents prioritised better forest cover over income and food security. Therefore the issue of participatory forest management in NWFP becomes quite complicated in the sense that the FSP model of participatory forest management put greater emphasis on forest protection and the regeneration of new trees, whereas the priorities of the major stakeholders (local people) were higher income and having sufficient food. Participatory forest management had partially increased natural and social capital and reduced some factors of vulnerability. It can be argued that the improvement of the natural capital (forests) as an outcome of the institutional changes can partially ensure livelihood security for local people in the future. However, the diverging objectives of the FSP project and the livelihood realities of local communities were one of the issues hindering the effectiveness of participatory forest management in NWFP.

The results regarding **vulnerability context** revealed that in the project villages forest fires, illegal cutting, and conflicts over forests, land, etc. had been significantly reduced compared to non-project villages. It is therefore concluded that the participatory approach to forest management had reduced the factors of vulnerability related to natural (forests) and some social assets. However, no significant differences were found between the responses of the respondents from project and non-project villages regarding other indicators of the vulnerability context (for example unemployment and food prices).

Analysis of the interaction, level of trust, and emerging conflicts (as different **actors** tried to adjust to their new roles and responsibilities in the context of participatory forest management) revealed that the institutions responsible for the enhancement of trust between the state officials were weaker than the state (forest department) and the timber mafia. The major obstacles in this respect were:

i)   While decentralising forest management, the forest department maintains the same priorities of forest conservation, while on

the other hand, local people use forests in a variety of ways with priority given to subsistence needs (e.g. firewood, soil, timber for house construction). Financial livelihood concerns are not met from forests (e. g. by selling timber), but by migrating to sell labour. Local people's top priorities are to secure the financial means to make a living and satisfy related basic needs (e.g. physical infrastructure, schooling, health). Thus, the expectations they have of VDCs are in these areas. The study shows that this divergence of expectations is not taken into consideration by the FSP.

ii)   Besides this livelihoods-related mismatch between the intentions of the FSP and the expectations of local people, another dimension surfaced during field research. This concerned the noticeable (historically rooted) lack of trust, friendly relationship and interaction between local people and the forest department in NWFP. The decentralised forest management model introduced by the FSP does have the potential to bridge this gap, since a slight improvement in the level of relationship and trust was recorded in the project villages. However, the results showed that the poor people had less trust in selected institutions, and richer people (with more income) had a higher degree of trust in the institutions, meaning that the project interventions had not taken care to include the socially excluded and marginalised sections of society.

iii) Participatory forest management can be an effective strategy to deal with the timber mafia by developing a sense of awareness and ownership among forest residents. Yet there is another weakness in the new institutionalism. The responsibility (as delegated by the state) of these newly created institutions is more focused on protecting the forests rather than managing them, meaning once more that no sense of local ownership can

evolve. Forest department officials who earn money from the (illegal) sale of timber do not fully cooperate with the local committees. As a result the members of these committees and local communities were losing interest. The local stakeholders were not convinced about the sustainability and continuity of the institutional changes owing to a deep-rooted mistrust of state institutions and the inability of the new institutions to bridge the gap. Under these conditions, neither trust, nor a friendly relationship, nor sustainable forest management can be expected.

iv) Regarding the devolution of power, the forestry sector was one of the few sectors that were not devolved under the devolution plan, and the provincial forest department is still the main 'custodian' of the forests. Therefore there was no formal link between the local governments (UC) and the forest department. The VDC and WO did not have any formal interaction with the local governments either. The links between these important institutions existed only where the UC member was also a VDC or WO member. In these cases, the efficiency of these institutions had increased.

v) Various non-state, non-business groups (civil society) were trying to operate within this contested political space. They include more modern forms of NGOs, the traditionally powerful "jirga" and groups working to foster traditional values (for example, religious organisations). However, on the one hand the FSP did not really engage in any dialogue with these social entities, and on the other hand these entities themselves were not in a position to initiate any changes in local resource use.

10.2 Recommendations

If the provincial government of NWFP, the forest department and the international donors want policies and institutions that ensure sustainable forest management and enable local people to have livelihood security, then many actions are required urgently. This study, within the limitations of time and resources, has provided a clear understanding of the present situation of rural livelihoods and the directions in the future. The following recommendations arise from the study and are for the consideration of those concerned about improving the effectiveness of institutional changes in the forestry sector and to local people's livelihoods.

i)   Institutionalised access to forest resources (fuel wood, timber) should be made simpler and easier by empowering the local institutions (VDCs and UC) to decide on access and benefit-sharing concerning forest resources (for example, issuing permits for construction timber).

ii)   Women are very important stakeholders and the main users of natural resources, but the performance of the WOs was very poor. There was lack of female social organisers in the NWFP forest department. The services of local, educated women should be hired and, after appropriate training, these women should be recruited as female forestry extension workers to mobilise the WOs. The female social organisers should also be provided with transport facilities so that they can reach the remote mountain villages of NWFP.

iii) The development of human capital is considered one of the expected main outcomes of JFM. However, the FSP had very few provisions to enhance the human capital of common villagers. It is therefore recommended that more emphasis should be given to enhancing human capital through non-formal educa-

tion; and training should be provided according to the local needs.

iv) A participatory agricultural extension component should be added to the institutional change process in the forestry sector in NWFP by providing training to members of VDCs and WOs on the latest innovations so that they can pass this knowledge on to the local people. An effective agricultural extension and marketing service can improve the livelihoods of the people of NWFP because the land of these (mountain) areas is very suitable for growing fruit (apples, peaches, persimmons, walnuts, etc.) which can be supplied not only to the lowland areas of country but also to foreign countries.

v) The FSP was supposed to contribute towards improving village infrastructure and income-generating activities. However, in practice, the sole emphasis has been on forest protection whereas the communities had high expectations that the VDCs would provide basic facilities (roads, water, etc.). It is recommended that the government of NWFP should provide funds to the local CBOs to supply water by building small dams at selected locations to store the water from streams, by improving basic health units, schools (especially girls' schools), roads and alternative sources of energy.

vi) Although the forestry sector was not 'devolved' and not handed over to the local governments, there are still considerable possibilities for local governments to become involved in forestry affairs. The finding that some members of the VDCs and WOs were also union councillors and that people from the project villages had more trust in and a better relationship with the union council (UC) could become a key link in the future. The VDCs can bridge the communication gap between the local governments and the forest department. It is recommended

that the UC and VDCs should hold joint meetings every two months to strengthen their interactions and communication. There is a need to empower the local governments regarding forest management.

vii) The field surveys found a general lack of integration of efforts and coordination between various NGOs working in the forest areas of NWFP. Representatives of local NGOs and CBOs should be invited to the monthly meetings of VDCs/WOs in order to integration of the activities of such institutions

viii) Migration was the main livelihood strategy of the respondents whereas an insignificant number of respondents were dependent on the natural resource base for their (cash) income. The institutional changes in NWFP might have an impact on current livelihood strategies by employing rural youth for activities such as forest protection, tree planting, etc. and thus providing them with a regular source of income.

ix) The FSP was a donor-driven project despite claims that civil society was involved at the planning stage, but "civil society" as perceived by development donors is limited to a few NGOs. Llocal people had mixed opinions about NGOs and many people had a perception that NGOs that work with the donors have some hidden Western agenda and want to spread Western culture in their area. The donors should therefore consider the broader spectrum of civil society such as CBOs, religious groups, and the "jirga", as well as local governments etc., before the implementation of such mega projects.

x) The VLUP documents are in English. Considering the high illiteracy rate in NWFP, the VLUP and other related documents should be translated into local languages.

xi) The participatory forest management can be an effective strategy to deal with the timber mafia by developing a sense of awareness and ownership among forest residents. However, as the lower- and middle-level staff members from the forest department were uncooperative because they fear losing the additional money they earn in bribes from the timber mafia, they are not open to a participatory process. It is therefore recommended that the salaries of the lower- and middle-level staff in the NWFP forest department should be raised so that they do not adopt illegal means to sustain their livelihoods.

xii) Trust between the state actors and local communities can be built up if the local institutions are empowered and given authority in the context of this participatory forest management system. There should be a provision for continuous education and training of forest department employees regarding the new paradigm of forest management. A systematic and periodic external evaluation system should be adopted to ensure the proper implementation of future projects in the true spirit.

xiii) A holistic analysis of 'local people', their livelihood assets and strategies, resource-use patterns and power relations before the implementation of such participatory projects would ensure the sustainability of the decentralisation and the active participation of local actors - particularly poor people - in the project.

xiv) There was not much deliberation by the forest department concerning the involvement of traditional and religious groups in the reform process. A speech by an "imam masjid" in a mosque about the importance of trees and forest protection can be much more effective at changing the attitudes of local people than a lecture by a forestry official. How to involve local religious groups in the development programme so that they can

spread innovations in society is a challenge that ought to be considered when the programme is being planned.

xv) The local people are highly dependent on forest wood for heating/cooking and construction purposes. The government should provide alternative sources of energy (for example LPG and electricity) to local people at subsidised rates to reduce pressure on the forests.

xvi) A holistic analysis of the power and interests of all actors involved in the participatory paradigm is crucial before making recommendations. The difficulty is that one has to deal with formal legal instruments and informal rules of the game in a high-price timber business (timber mafia), where power asymmetries and violent conflicts are common. With the implementation of the joint forest management, many state officials fear that they will lose their power/authority and income. The nexus of powerful timber dealers, corrupt politicians and state officials should be carefully analysed to ensure the success of the participatory approach in NWFP.

10.3 Directions for future research

i) In-depth qualitative research studies should be designed to understand the power relations, negotiating and decision-making process of involved stakeholders at different levels (intra-household, regional, national, and global) in NWFP in the context of natural resource management. The emphasis should be on the impact of gender and the institutional context (i.e. social, economic, and political) at different scales (micro, meson and macro), how they contribute to livelihood vulnerability at household level, and how to foster livelihoods resilience.

ii) Migration was the most important livelihood strategy in NWFP, it means that people's livelihoods were based in urban areas rather than rural areas. In-depth studies should be planned to explore the link between migration, rural development (interventions) and natural resource (forest) management.

iii) The results of this study indicate that the poor and marginalised respondents had less access and participated less in the new institutional paradigm. Why is this? Future research should be planned to explore the conditions (policy, institutional, economic, ecological, social etc.) influencing the poor's access to livelihood assets (human, social, natural, financial and physical).

iv) Future research should address the following research questions (in the context of NWFP): "How can marginal people improve their livelihoods in a sustainable manner?"; "How can their strategies contribute to sustainable natural resource management?"; "How can governments and public policies support these strategies better?"; and "How do marginalised people cope with the present conflictual situation?"

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Deforestation in the North West Frontier Province (NWFP) of Pakistan has drawn attention to deficiencies in traditional state-controlled systems of forest management. Accordingly a comprehensive institutional reform process in the forestry sector of the province was introduced in the mid-1990s with support from various donor agencies. This book – based on the author's Ph.D. research – attempts to underline the livelihoods perspective of participatory or joint forest management initiatives in NWFP. The main aim is to understand the linkages between rural livelihoods, the role forests play in the livelihoods and the impact of (changing) forest governance on these livelihoods. This analysis identifies issues or factors that are hindering the effectiveness of participatory forest management in the province. The results indicate that a majority of local people (in the case study areas) were not dependent on natural resources (particularly forests) for their cash income; instead they had adopted diverse non-natural resource based activities. They nevertheless use the forests for subsistence, for example timber for house construction, fuel wood, pastures, etc. The analysis revealed that in the NWFP model of joint forest management, the provincial Forest Department maintains the priorities of forest conservation, while local people's top priorities are to secure the financial means they require for living and related basic needs (e.g. physical infrastructure, schooling, and health). The book shows that this divergence of expectations was not taken into consideration during the reform process. Mistrust and a lack of effective communication between main stakeholders are identified as another factor hindering the effectiveness of the participatory approach. Likewise the interventions had not taken care to include the poor and marginalised sections of the community. It was recommended that institutional access to forest resources (fuel wood, timber) should be made simpler and easier by empowering the local institutions to decide on access to and benefit-sharing from forest resources. The emphasis should be put on enhancing human capital through non-formal education; and training should be given according to local needs. However, the challenge remains how to build trust and include different stakeholders (particularly socially excluded ones) in forest management activities.