

## Review of Organizational Setup for Forest Conservation and Related Issues in Khyber Pakhtunkhwa, Pakistan: A case study of Swat Valley

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### Abstract

This study was conducted during 2018-19 after the implementation of the 18th constitutional amendments, under which the provincial government was given autonomy. The objective of the study was an attempt to address institutional problems concerning environmental protection and forest resource conservation. The various aspects highlighted include legislation, organization setup (governmental and non-governmental organization), and public involvement in the form of social institutions and code of conduct related to environment and forest resource conservation.

Different organizations related to forest conservation, including Forest, Agriculture, Soil conservation, Fishery, and Environment were visited and the officials were interviewed replace about different ongoing activities, cooperation from the community, and other related departments.

It was observed that environmental protection and forest conservation efforts were weak, which can be attributed to varying and complex institutional interactions. These include the availability of funds, manpower, and cooperation and coordination among different organizations. Public involvement was observed as negligible, due to which both, governmental and non-governmental organizations are working in isolation, affecting environmental and forest conservation measures negatively.

**Keywords:** Community Participation, Environmental Legislation, Social Codes of Conduct, Interdepartmental Cooperation, Departmental Coordination

### Introduction

Environmental protection and forest conservation is multidisciplinary subject. It includes protection from soil erosion, arrangement, and management of water for irrigation [1], balance use of agrochemicals and protection from grazing [2]. In general, there are two main aspects of organization related to forest conservation, (i) internal aspects like leadership, skill, and strength (ii) external aspects like linkages with other organizations [3]. Environmental protection and forest resource conservation legislation has got central importance and provides a base for resource protection-related preventive and curative measures [4]. The various important external factors for Forest conservation include training,

participatory approach, and perception of the local community [5]. Therefore, for better conservation, it is important not only to keep the Forest department harmonized internally but also to keep linkages with other related departments in terms of sharing information and technical know-how with each other and with the local community.

In Pakistan, various organizations are constituted for different functional aspects of resource conservation, among them agriculture and forest departments have got a leading role. The Forest department is equipped with six directorates [6];

i. Institutional and human resource development

- ii. Research and Development
- iii. Community extension and gender development
- iv. Non-timber forest product
- v. Forestry planning and management

Apart from the above, an autonomous department of watershed management also exists within the framework of the forest department to manage the watershed that drains into the Turbela reservoir. To ensure maximum output, watershed-related activities need high-level cooperation from the community [7]. To ensure community participation, two separate bodies were foreseen; i) forestry round table and ii) forestry commission. The former was created and given due representation not only to communicate with the community but also to look after the wood-based industry. Whereas the forestry commission is yet to be put in place. To ensure community participation in a lawful manner in the management of forests, community participation rules 2004 were enacted [8]. Likewise integrated natural resource management project with Swiss assistance is operative since 2006 in the selected district of the Hazara and Malakand divisions with an emphasis on a participatory approach [9]. Community participation was evaluated in terms of tree plantation was considered effective [10].

The second-largest department which seems relevant to forest conservation is the Agriculture department. The agriculture department is equipped with sub-departments including soil conservation, water management, and plant protection [11]. Other Government departments working in support include the department of Water and Power Development Authority (WAPDA) in terms of irrigation and erosion control and the Environmental Protection Agency (EPA) to look after pollution and contamination aspects. What relation exists among these various governmental organizations and sub-departments working inside the forest department is a question mark in the study area.

Swat Valley is a mountainous area and only 23% area is arable [12]. The total population of the Swat valley is 4546 thousand with an average population growth rate of 3.36% [13]. The arable land is accommodating 67% of the total workforce of the valley [12], leading to high population pressure on land resources. To release pressure on forest resources, it is necessary either to divert people to nonarable -soil occupations like fisheries, tourism, mining, and forestry or take off the existing forest resources in terms of reforestation and protection. Effective care of forest resources would need collaboration among the different relevant government sector organizations.

The current paper highlights the role of formal organizations concerned with forest conservation. An attempt has been made to identify weak areas if any and to suggest a suitable solution.

## Methodology

All information in this manuscript is qualitative. Different organizations associated with forest conservation were visited to identify the problem if any and activities of the organization. The officials of concerned departments i.e. forest, agriculture, and environment were asked about available legislation and its applicability, the department's performance and response from the community in terms of cooperation and coordination; inter-departmental sharing of information, coordination with other departments, and adaptation of participatory approach for doing things. These organizations include Forest, Agriculture, Fishery, and Environment. Different available acts and rules and regulations, related to soil conservation were discussed and analyzed. These include various acts related to Forest, Agriculture, Fishery, and Environment.

## Discussion

### Forest Conservation Related Legislation

Several steps have been taken by Pakistan in this regard, like soil erosion control, deforestation, fisheries, wildlife, etc. Rules and regulations were formulated in the form of different acts, even before the creation of Pakistan. Environment-related acts include Canal and Drainage Act 1873, Explosive Act 1884 Forest Act 1927, and Factories Act 1934 [14]. The various acts and ordinances that appeared relevant to Forest directly or indirectly were reviewed to look into its implementation aspects (Table 1).

During the period of ex-states of Swat and Dir till 1970 tree cutting from the forest areas was strongly forbidden. In Dir, a total monopoly was there while in Swat justified cutting was allowed. Similarly in Swat hunting and fishing were not allowed in a specific area, and were reserved for the Royal family and their guests only [15]. In Malakand Agency each village had an official Jirga comprising of elderly people (Khans and Maliks) belonging to landowning families who were responsible for looking after the forests' resources [16]. The various acts such as West Pakistan Fisheries Ordinance 1961, Motor Vehicle Ordinance 1965, and related rules existent before the creation of Pakistan did not apply to Swat, Dir, and Malakand [17].

After the merger in 1970, the status of Malakand Agency was changed to the district [18]. To compensate bane on the poppy crop various facilities were given to the area. That included subsidized rates for fertilizers and pesticides promotion of education, the opening of banks, electricity arrangements for the remote area, and loans for tube wells. Various agriculture projects were also initiated, such as the Malakand citrus Project and the promotion of nurseries. The irrigation department initiated demonstrative agriculture projects, but all such projects were for a very short period and the objective was not to promote the people or develop the area but was for the purpose to keep them silent after banning poppy cultivation [16].

**Table 1: List of Forest and Timber Related Laws in Khyber Pakhtunkhwa Province and its Relevancy to Swat Valley**

S NO	Laws	Relevancy to Swat Valley		
		Direct	Indirect	Irrelevant
1	NWFP Forest Ordinance 2002	√	√	x
2	NWFP Forestry Commission Act 1999	√	√	x
3	Hazara Forest (Amendment) Ordinance 1997	√	√	x
4	Cutting of Tree (Prohibition) Act 1992	√	√	x
5	NWFP (Conservation and Exploitation of Certain Forests in Hazara Division) Ordinance 1980	√	√	x
6	NWFP Forest Development Corporation Ordinance 1980	√	√	x
7	Hazara Forest and Local Government Laws (Amendment) Ordinance 1978	√	√	xx
8	NWFP Establishment of Sale Depots and Sawing Units Rules 1975	√	√	x
9	NWFP Forest Produce Transport Rules 1975	√	√	x
10	NWFP Management of Protected Forest Rules 1975	√	√	x
11	Hazara District Protected Forest Rules 1973	√	√	x
12	NWFP Forest Officers Powers, Duties and Rewards Rules 1973	√	√	
13	NWFP Timber Market (Peshawar) Ordinance 1972	√		
14	West Pakistan Firewood and Charcoal Restriction Act 1964	x	x	√
15	Forest Transport Rules 1952	x	x	√
16	River Rules 1952	x	x	√
17	Hazara Management of Waste Land (Guzaras) Rules 1950	x	x	√
18	NWFP Protection of Trees and Brushwood Act 1949	x	x	√
19	Pakistan Forest Act 1927	x	x	√
Source: IUCN Web Site: <a href="http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/pakistan/elaw_initiatives/elaw_nwfp/">http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/pakistan/elaw_initiatives/elaw_nwfp/</a> [20]				

By the end of 1990, all forest-related (directly/indirectly) organizations were extended to the valley with almost complete legislative coverage. The list of important legislation includes local government ordinances, forest acts and pesticide acts, etc, and associated rules and regulations (Table 2).

**Table 2: List of Various Environmental Law in Khyber Pakhtunkhwa Province about Forest Protection**

S NO	Laws	Relevancy to Swat Valley		
		Direct	Indirect	Irrelevant
<b>Land Tenure</b>				
1	NWFP Gomal Zam Project (Control and Prevention of Speculation in Land) Ordinance 2001	√	√	√
2	NWFP Land Reforms (North-West Frontier Province Amendment) Act 1972	√	√	√
3	NWFP Land Reforms Rules 1972	√	√	√
4	West Pakistan Land Utilization Ordinance 1959	√	√	√
5	West Pakistan Land Reforms Rules 1959	√	√	√
<b>Fisheries</b>				
6	West Pakistan Fisheries Ordinance 1961	√	√	
7	NWFP Fisheries Rules 1976	√	√	

Wild Life, Fauna Non-Timber Flora		√	√	
8	NWFP Wildlife (Protection, Preservation, Conservation, and Management) Act 1975	√	√	√
9	NWFP Wildlife (Protection, Preservation, Conservation, and Management) Act 1976	√	√	√
<b>Protected Area</b>				
10	NWFP Wildlife (Protection, Preservation, Conservation, and Management) Act 1975 - National Parks, Wildlife Sanctuaries, Game Reserves, Private Game Reserves	√	√	√
11	NWFP Private Game Reserve Rules 1993	√	√	√
<b>Fresh Water</b>				
12	NWFP River Protection Ordinance 2002	√	√	
13	NWFP Local Government Ordinance 2001 (refer to 4.3.2.1)	√	√	√
14	NWFP Irrigation and Drainage Authority Act 1997	√	√	√
15	NWFP Salinity Control and Reclamation of Land Ordinance 1987 (Missing)	√	√	√
16	NWFP Rural Area Drinking Water Supply Scheme Act 1985	√	√	√
17	NWFP Water users Association Ordinance 1981	√	√	√
18	West Pakistan Water and Power Development Authority Act 1958 (Missing)	√	√	√
19	Canal and Drainage Act 1873	√	√	√
Source: IUCN Web Site: <a href="http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/pakistan/elaw_initiatives/elaw_nwfp/">http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/pakistan/elaw_initiatives/elaw_nwfp/</a> [20]				

As per information collected from the forest department, forest-related large-scale legal reforms were carried out in the year 2002. Consequently, all forest acts which were formulated and promulgated in the past were revised and forest ordinance 2002 was developed. The first-ever provincial forest policy was developed and enforced.

These rules are devised with the idea to protect forest resources. Due to the problem of community and government property these rules are not implemented properly. The various reasons include a lack of manpower, resources, and cooperation from the community.

### A. Role of Governmental Organization

The Forest department is the major department related to forest and related resource conservation. All the directorates are Mandated to keep an eye on forest-related problems and its solution. They are executing projects to identify the hot area and necessary arrangements to cope with that. The local community personnel is the opportunity to ask for help such as to protect flood affected plantations on communal and personal land. Looking into the available fund they evaluate and accept the affected area only. In this way, it is difficult to cover and respond to all complaints.

As the forest is used for revenue generation, therefore, the forest department has the mandate to identify and select a forest lot for

cutting. Similarly, if a local person needs wood for construction. He will apply for justified cutting. The forest department may accept the request or reject it. The forest department official after visiting the area has to analyze the situation.

Similarly, the Agriculture department is to look after the arable land resources and encourage agroforestry and farm forestry along with maximizing crop production. The Agriculture Department is also working on soil protection conservation through plantation and field embankments. For this, a farmer has to apply for financial assistance from the agriculture department. For selecting an agriculture field, there is proper evaluation. This evaluation and selection are sometimes interfered with by political personals.

Reforestation is one of the major activities which is also practiced by the soil conservation department (Sub-department of Agriculture Department) and Environmental Protection Agency (EPA). But none of these are required to coordinate with each other. Both these departments have got the mandate to initiate such activity according to their priority areas. The progress reports of which goes to their respective ministries. The fishery department has to look after fish resources and water quality. This way has got overlapping with EPA in terms of water quality. The following are the various problems faced by different organizations related to soil conservation.

### **A. 1. Lack of distribution of responsibilities among the stakeholder departments:**

For example, re-forestation is the major activity of both the soil conservation department attached to the Ministry of Agriculture as well as the forest department attached to the ministry of environment forest and wildlife. The Forest and Wildlife Department is working at the provincial level and is responsible for afforestation and re-forestation and is working under the provincial ministry of environment, while the forest department is also part of the district government with a similar mandate attached to the provincial Ministry of Agriculture and Environment.

### **A. 2. Lack of coordination among the stakeholder departments:**

Every department is posing itself as a separate autonomous body with the mandate received from the concerned ministries. A department identifies and allocates targets area without consultation with other relevant departments and/or defines a problem and activities in isolation according to the available professional know-how. Due to this, there is overlapping and repetition and sometimes ignoring important areas. For example, for both the irrigation and fisheries departments water pollution is not present on their priority list. Although it has got importance for both, irrigation and fishery. The environmental protection Agency (EPA) on the other hand is dealing with all sorts of pollution including water and soil pollution. But no such mechanism exists to enter change information. If the fishery or irrigation department needs water quality-related information, then they will design a separate study. In this way, each organization starts its work under their planning and submit their proposals through specifically formulated Planning Commission Performa's (PC-I).

Similarly, to initiate a plantation campaign, the forest department has got its program while EPA and Soil conservation department may also initiate plantation in the same area. This sometimes leads to unnecessary loss of funds.

- A. 3. Political interference: Departments like the forest, soil conservation, watershed management are normally influenced by a political figure in the area. In this way, there is no process to identify the area as of special importance or sensitivity to prepare a priority list on merit.
- B. 4. Lack of community participation: Local people are normally not involved in the planning process; therefore, they do not actively participate in the implementation of developmental activities in general and in forest-related activities in particular. The forest department has got a special wing in the form of a round table and forestry commission. The former has started work while the latter is in its initial stages. Similarly, the agriculture department has got Farmer Field School (FFS), used for farmers' training. But no forest department did not know Agriculture Department and vice-versa.

## **B. Role of Non-Governmental Organization**

According to the list provided by Akhtar Hameed Khan, Institute for Rural Development, Islamabad, there are 40 local NGOs, 12

international NGOs, and 16 UN Agencies and donors working in Khyber Pakhtunkhwa in the field of Environment. According to the sustainable development network Pakistan, there are 39 local NGOs 17 international NGOs, and 18 UN and international agencies. In the Swat valley, four NGOs are active, including HUIJRA, EPS, ESP, and National Rural Support Program. Some international NGOs like IUCN and WWF also have their branches in the study area. UN and other International Agencies their head offices based in Islamabad and Peshawar they are working in partnership with different NGOs or governmental organizations. Besides, different NGOs and Projects have established different village-level organizations for implementing their activities. These organizations are facing the following problems

### **B.1 Lack of effective communication with the concerned community:**

The response from the community is weak because people do not trust and are doubtful about the hidden agenda of donors. This hinders or at least slows down the success of the developmental activity. The major hurdles are culture, and religion. The NGOs appeared to be a bit liberal, especially in the case of women. To encourage public participation and for successful developmental activities, they are required to work in the community by working within the norms of culture and religion.

**B. 2. Irregular availability of funding:** The fund availability is for a specific project and specific duration. After the project period, the activity cannot be kept continued. Next time that particular NGO is not respected in the community.

**B.3. Political interference:** Interference by political bodies is also felt in the working of NGOs, for developmental activities. Areas are not selected based on research or the need for intervention but on the recommendations of a politician. In this way the NGOs get support to work in one area, but lose credibility in another area.

## **C. Social Institution**

The three districts of the River Swat watershed are part of the Pukhtoon belt and are characterized by tribal Phuktoon codes of conduct and traditions [15]. Roarwali (mutual cooperation), Ashar (collective efforts), and Nagha (mutually agreed ban for protection of natural resources) are some of the codes of conduct used for collective responses to tackle a man-made or natural origin situation effectively. Jarga was the most effective and well-organized forum and a strong decision-making body. Various problems were solved collectively through Ashar (collective effort), which is still in practice in some villages of Malakand including the repair and cleaning of irrigation channels [19]. With technological advancement and encroaching urbanization, traditional institutions are gradually losing their strength. The official Jarga and traditional Ashar are no more operational. Now a day whenever there is a problem, Jarga is constituted on an ad-hoc basis for solving that very problem [12]. Another main problem is the move toward individualism. Because of which Hujra an important place of social gathering is disappearing. Now one place of gathering is mosques (Jumata or Masjid),



which according to Islamic principles, cannot be used for common affairs, but is still a source to gather people.

### Conclusions and Recommendations

Looking into the available departments (Agriculture, Forest, Irrigation, and Environment), NGOs, and available legislations, the institutional setup is almost complete. The main thing, which is required, is to make them efficient and effective. All organizations are working in isolation. These departments are for the benefit of the people, but the people are unaware of their activities. So many departments have adopted this as a policy to keep a particular developmental activity secret with a reason to avoid any kind of public and political interference. Not only this, almost all departments are unaware of each other's activities. This leads to repetition and duplication, which is not only a loss of time but also a loss of resources. This trend needs to be changed. The following are recommended.

1. To channelize the institutional setup and make all conservation efforts participatory by involving the community, NGOs, and other governmental organizations. The concerned departments are required to undertake technical assessment and for proper implementation seek community help. For example, Forst Department cannot do everything, but a link is needed to be established with other departments. Such as for getting information on soil status agriculture department can help, similarly, the forest department can help with forest-related problems. In the same way, EPA can help these departments in terms of monitoring and adaptation of control measures and should provide coordination and monitoring functions.
2. Different NGOs working in the study area have already published various literature to increase awareness and educate the local people about natural resource conservation and environmental protection. Further work is required to introduce these at the school level for which encouragement from government organizations is required. In this way, the local people may become part of various developmental activities.

### Authors' contributions

ZU, MN and SZI conceived the study. AH and AK wrote the manuscript. All authors contributed to the work and gave final approval for publication.

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### Availability of data and material (data transparency)

All the data is available in the main manuscript.

### Code availability

Not applicable.

### Declarations

#### Ethics approval

Not applicable.

### Consent to participate

Not applicable given case study status.

### Consent for publication

Not applicable.

### Conflicts of interest/competing interests

The authors declare that they have no competing interests.

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