



A Monumental Deodar Tree, Kamalban Forest, Kaghan Valley, Pakistan

Evolution of Forest Management

**Historical Perspective,
Application and Implication**

*in North Western Pakistan
Khyber Pakhtunkhwa*

**Muhammad Iqbal Swati
Mamoona Wali Muhammad, Ph.D**



Designed by:

- i. Vibrant Communications Pvt Ltd.
- ii. Mamoona Wali Muhammad, Ph.D

Photography by:

- i. Engineer Tahir Iqbal Swati
- ii. Muhammad Aslam

First Edition: 2014

ISBN# 978-969-9991-00-4

Copyright ©

All rights are reserved to authors. The authors can be reached at the email addresses swati.iqbal@gmail.com and mamoonawali@hotmail.com. The part of this book can be used for educational, academic and research purposes with due acknowledgement and citation and reference as below:

M. Iqbal Swati, and Mamoona, W. M. (2014). **Evolution of Forest Management in North Western Pakistan, Khyber Pakhtunkhwa. Historical Perspective: Application and Implications. MaahaSahar Publishers**

Printer: Noble Print Services, Islamabad, Pakistan. 051-2201726
Email: nobleprint@hotmail.com

Price Rs:500/=



Contents

	Dedication	i-ii
	Old forests	iv-viii
	Foreword	xi
	Acknowledgement	xii
	Contents	xiii-xv
	Acronyms and Abbreviations	xvi-xvii
	Introduction	01
CHAPTER – 1	Precolonial Period	06
	1.1 Prehistoric and 4th Century A.D	03
	1.2 5th Century A .D.to mid19th Century	04
	1.3 Summary	06
CHAPTER – 2	Colonial Period	07
	2.1 Forestry Prior to Forest Conservancy Policy (1750 to 1850)	07
	2.2 Beginning of Forest Conservancy Policy (1850 to 1950)	09
	2.2.1. Hazara Forest Regulation of 1893	11
	2.2.2. Hazara Forest Regulation of 1911	12
	2.2.3. Reserve Forests	14
	2.2.4. Results of Forest Conservancy in Reserved Forests	17
	2.2.5. Guzara Forests	18
	2.2.6. Results of Forest Conservancy in Guzara Forests	19
	2.2.7. Initial Planning for Management	20
	2.3 Forestry Beyond Indus	21
	2.3.1. Swat and Swat kohistan	21
	2.3.2. Chitral Forests	23
	2.3.3. Gilgit Forests	23
	2.4 Miscellaneous	25
	2.5 Summary	25
CHAPTER – 3	Period of Timber Production Management 1940-45 to 1970-75	27
	3.1 Scrub Forests	28
	3.1.1. Reserve Forests	29
	3.1.2. Guzara Forests	30
	3.2 Sub-Tropical Chir Pine Forests	31
	3.2.1. Reserve Forests.	31
	3.2.2. Guzara Forests.	34
	3.2.3. Resin Tapping	36

Contents

	3.3 Moist and Dry Temperate Forests	40
	3.3.1. Reserve Forests	40
	3.3.2. Guzara Forests	47
	3.4 Other Forests	48
	3.5 Lease Procedure	51
	3.6 Summary	52
CHAPTER – 4	Intensification, Diversification and Expansion (1970-71 to 1990-95)	53
	4.1 Abolition of Contract System	53
	4.2 Forest Development Corporation	53
	4.3 Forest Cooperative Societies	56
	4.4 Forest Harvesting Co-operative Societies	59
	4.5 Intensive Forest Management	61
	4.6 Siran Forest Development Project	65
	4.7 Watershed Management Project	67
	4.8 Other Projects	Ø
	4.9 Summary	72
CHAPTER – 5	Suspension of Forest Management	73
	5.1 Initial Ban Period (1993-97)	74
	5.2 First Extension of Ban (1997-99)	75
	5.3 Second Extension of Ban (January 2000- December 2000)	76
	5.4 Impact of Timber Harvest Ban on Forest	78
	5.4.1. Reaction and Performance of Forest Department	78
	5.4.2. Role and Initiative of Donors	79
	5.5 Technical Aspects of Timber Harvesting Ban	80
	5.5.1. Deforestation vs Flood: Myth or Reality	81
	5.5.2. Impact on Growth and Health of the Forests	82
	5.5.3. Socioeconomic Impact	84
	5.5.4. Environmental Impact	85
	5.6 Summary	86
CHAPTER – 6	Forestry Sector Reforms	87
	6.1 Forest Policy	88
	6.2 legal Reforms	89
	6.3 Institutional Reforms	91
	6.4 Revised Planning Strategy	93

Contents

6.5	Forest Development Fund	95
6.6	Impact of Reforms on Forest Conservation and Management	95
6.7	Summary	97
CHAPTER – 7	Resource vs Challenges and Road Map	99
7.1	Resource and Potential	99
7.2	Challenges	101
	7.2.1. Climate Change	103
	7.2.2. Mitigation Approach	104
7.3	The Road Map	105
	Citations	109
	Authors Biodata	
	Muhammad Iqbal Swati	114
	Dr. Mamoona Wali Muhammad	115

species of trees more useful to the household. The garden simulated the forest in having a number of artificially grown canopies of trees, shrubs, herbs and grasses (17).

Whatever the form of use was, in fact, the forest area was under the control of one or a group of households, except in the case of hunting and gathering where the entire community was having control of the whole forest. The household did not have the ownership of the land which vested with the community or sometimes in a very vague manner with the sovereign. The management however vested with the household. In other words, the forest administration was de-concentrated to the household or a group of households or to the community but the authority rested with the community.

This indicates that this devolution is not an imposed process but is a step in the naturally developing human society which can be classified as traditional (17).

1.3 Summary

In this period, forests with diversity were in abundance in Indo-Pakistan sub-continent. Ancient scribes suggested that the Brahmin and Buddhist people of sub-continent in earlier centuries lived in harmony with luxurious natural forests. The conquests of the Aryans, in pursuit of military gains, certainly changed the landscape. Land was cleared as agriculture and pastoralism took root to support the Aryans as they began to settle. The natives who were displaced to the hitherto inaccessible hills cleared some forests to make living. However, a low population base and subsistence economy put forth minimum pressure on the forest endowment.



Chapter 2

Colonial Period

In this chapter, review has been carried out of initiatives taken, directives and orders issued, procedures and measures adopted to introduce regular forest planning and management practices in sub-continent. The strong foundations of forest planning and management established in that period are being followed even today. As mentioned earlier in Chapter one the *era* of forest management in Indo-Pakistan sub-continent, spread over more than 2500 years was divided into four different periods. The two of them have already been discussed in previous chapter where as remaining two are discussed in this chapter.

2.1. Forestry Prior to Forest Conservancy Policy (1750 to 1850)

Since 1600 century, the East India Company of Great Britain enjoyed not only the monopoly of trade with Indo-Pak Sub-continent but also strongly influenced the control of politics, administration and military. In 1773, the Company was brought under the control of British Parliament and, at the same time, a beginning was made to form and establish the Government in India. During this time, the growth of forest policy was extraordinary slow. The Government and the people obtained their requirements without any difficulty. The important part, which the forests play in nature and the great influence being exercised on physical well being of a country, was unnoticed and unrecognized. The direct and indirect values of forests were under estimated as is clearly established by the provision of many of earlier settlements, which transferred large forest areas in perpetuity to land owners or to cultivators, who at that time has no legal right to these tracts.

The time arrived when, with the advancement of modern civilization and the increased demand of both population and trade, the forest decline began to be regarded with apprehension. The true state of affairs was not recognized by the Government until the failure to supply local requirements of timber began to be felt. The first of these requirements, which began to give out comparatively early was, timber for shipbuilding and construction of deckyards. But in most of these instances, this difficulty was encountered through improved methods of exploitation by Government agencies or through contractors. Even then, although, protection was accorded, but it took many years, that too, *only given to certain species of trees and not to the forest as whole.*(5,11)



preliminaries to strengthen the conservation and management of forest resource. Various regulations were issued to streamline the conservation approaches and management practices. During this period, some important documents were also prepared including field manuals for the guidance of field staff, such as, *preparation of forest working plan in India(1910)*, *the Indian forest code, general regulations with forms and appendices(1913)*, *Hazara forest manual(1924)* and such like other documents.

These documents, in fact, provided the parameters for the planning approaches and application of silvicultural practices and documentation. During this period, Forest Act, Rules and Regulations were promulgated, which in fact are still applicable in one or other form. ***The determination and devotion of the forester of that time is remarkable, historical and matchless.*** This group of dedicated foresters were not mere exploiters of natural wealth, but they had some times sacrificed their health and life to conserve the nature amounting to heroic deeds in the olden times. Their determination did overcome physical hardships and they always succeeded to achieve the goal i.e. resource conservation. The documents prepared at that time, related to forest planning, forest management, silviculture, and utilization are still a valuable asset and reference material. The formulation and adoption of policy and legal instruments paved the way forward for better forest land administration and facilitated the expansion of British Authority over land and people of British India. During this period, a direction had been set for the growth of forestry as resource and profession. Research and Education in the field of forestry was never a second priority, rather it was considered essential preliminary for the growth of forestry profession. Indian Forest Service was created in 1864, and Forestry School was established at Dehra Dun in 1878. After the creation of Pakistan the Forestry Research and Education Institute moved various places in search of permanent abode, first started at Faisalabad, then in 1948 shifted to Upper Topa, Murree, later on in 1951 to Abbottabad and finally in 1953 to its present abode at Peshawar known as Pakistan Forest Institute (PFI). Moreover, the West Pakistan (now Pakistan) Forest Service was established and was operational till 1969. After the creation of provinces it is Provincial Forest Service who are taking care of all the forestry affairs.

British Forestry Conferences of 1920 and 1947 are hallmark events, where resolutions were passed to further secure the continuity of the policy for planned management of existing forestry resource in the country.



Chapter 3

Period of Timber Production Management 1940-45 to 1970-75

In this chapter, the growth of the forestry and management approaches has been discussed for the period from 1940-45 to 1970-75. Forest management in Pakistan and particularly in North Western region has passed through several phases before and after independence in 1947. In fact past policies inherited from British India played a key role in shaping up of new forest policies and the trend of forest management practices. Therefore, it would be worthwhile to briefly mention and discuss different policy statements, resolutions, inquiry committee reports and recommendations.

The policy statement of 1894 framed for British India was not relevant for the new state of Pakistan, as it did not contemplate the increase of forest area, nor did it emphasize the sustained harvest and also the management of private forest lands. These deficiencies were recognized in Pakistan forestry conference held in 1949. The guide lines of this conference laid down the foundation for new policy statement i.e. Forest Policy of 1955. This policy was the first bold statement which recognized the scarcity of forest resource and assigned high priority to forest development with equal emphasis on non- tangible benefits of forest resource. In this Policy, inter alias, it was categorically stated that; all forests should be scientifically managed under approved working plans. Beside this, during two decades of this period, other important initiatives were also taken for the improvement and development of forestry resource mentioned as under:

- Policy Directive of 1962
- Wildlife Enquiry Committee, 1969-1971
- National Forestry Committee 1972
- National Range Management Committee, 1973
- Inter Provincial Conference, 1974
- Agriculture Enquiry Committee, 1975
- Committee on Forest Preservation and Development, 1976

The out come of all these committees, conferences, seminars and meetings resulted towards formulation of relevant policies of natural resources including forests, over the period of time. The initial period after independence was almost continuation of the same i.e. colonial/pre



QuideAzam (C.C.F.), at the Second Silvicultural Conference held at Pakistan Forest Institute, Peshawar in 1966, is reproduced below;

*'It need to be realized that forestry being a quasi commercial enterprise can not be considered as viable if investments locked up for 150-200years, as is envisaged in our current management practices. Economic have rarely entered our calculations! This attitude of **laissez fair** may have had some justifications as long as we were merely exploiting natural heritage of forest. However, the crop that we are raising now at considerable expense have to be submitted to the critical tests of economic feasibility. There can be no escape from it-not for very long in any case. There is need for serious introspection; a fresh look at our aims and achievements.'*



The process of degradation of Forests





The process of degradation of Forests



4.3. Forest Cooperative Societies

The Guzaras forests of Hazara Civil Division are the property of the land owners in the villages in whose boundaries these forests lie. The management of these Guzara forests remained under the control of Deputy Commissioner till 1950. In the same year, the management was transferred to the Forest Department and Guzara Rules 1950, were notified under Hazara Forest Act 1936. This move was made to promote the scientific management of the forests, which cover an area of 1,326,718 acres in present day Hazara Civil Division. The owners, however, remained disgruntled with continued outside managerial control. They considered the management style of the forest department to be too conservative, bureaucratic and rigid. They were feeling frustrated that, neither forests were protected from the illegal cutting and intrusion of the local and migratory cattle nor dealt with the mounting demands for the forest products by growing resident populations.

The Government of NWFP's Agricultural Inquiry Committee sympathetically received the owner's petitions in 1975, which recommended transferring the management of these forests back to the owners through organizing them into co-operatives. The express purpose of the forestry cooperative was given by the Government of former NWFP (now KP) as follows;

'Cooperative societies should be enabled to administer their forests in accordance with the management plans duly approved by the forest department. The Department will not interfere in day to day administration of the forests, but will ensure through periodic inspection that provisions of the forest management plans are observed by the co-operative managerial set up of private forests'.

To initiate this pilot project, the rules for the management of Guzara forests under Hazara Forest Act 1936, were amended by the Provincial Government empowering the Conservator of Forests Abbottabad to entrust management of Guzara forests to cooperative societies of the owners, with the approval of the Provincial Government. A separate forest division was created to motivate and organize the Guzara owners into forest production and multi purpose cooperative societies. Forest management plans were prepared in **urdu**, so that all literate members of a cooperative society can read and understand the contents of the plan. Management systems adopted for all type of forests were based on *maximum input –maximum output principle. Rotations were kept close to the maximum wood production per unit area. Fellings were prescribed to be concentrated to economize on logging costs; and to encourage the road network. Felled over areas are to be planted artificially with nursery raised planting stock, and fire protection measures*



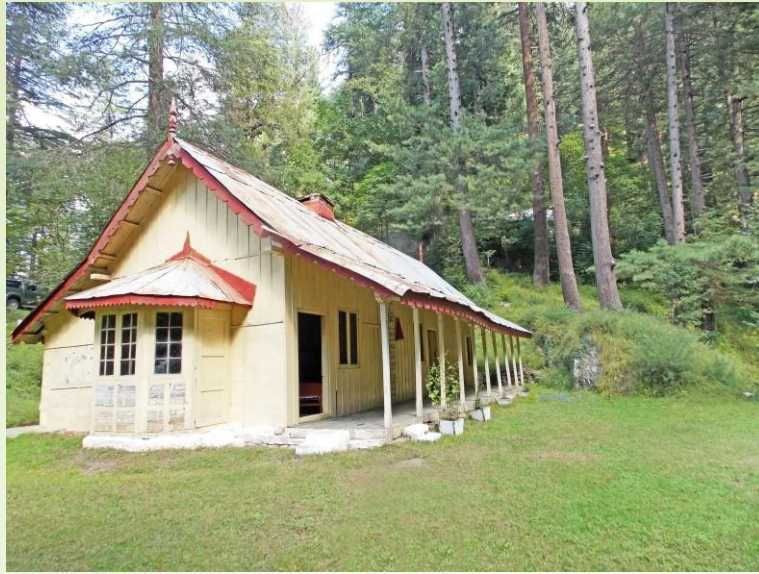
to be given attention. These were main broad parameters from silviculture and management point of view for any management plan.

For meeting the forest management expenses, the concerned cooperative society has to deduct 40% of the gross income and credit it to special fund called **Forest Management Fund (FMF)**. Money from the FMF was allocated for those operations which are to be carried out as per provision of the approved management plan, inclusive of afforestation, where 20% of this fund was always prescribed to be used for regeneration of the cut over areas (8).

The transfer of forest management responsibility from the forest department to the multiple purpose forest co-operative societies involved major risks and uncertainties. Unfortunately, it did not remain restricted to initial six experimental areas, which would have been evaluated and then applied at larger scale with necessary adjustments. Eighteen new Forestry Cooperative Societies (FCS) were registered from 1980 to 1983 and trend continued further. In spite of consistent recommendations to proceed with caution by external consultants and internal committees, 33 FCS were registered and were actively operating by 1993. In fact, the main reason was political influence and pressure and thus process became, more a, *"political bribe" to influential guzara owners rather than an initiation towards decentralization of forest management practices ever first in the history of Pakistan in this particular region.* Although, during this period, some efforts were made to monitor the process, in the form of *revised procedure of the functioning of existing FCS's, but its application on the ground was negligible and did not has any impact.* This revised procedure has the guidelines for, preparation and revision of working plan, nursery raising, afforestation, training of the members of FCS's, labour and staff, maintenance of accounts and audit, role of cooperative division and territorial supervisory staff. Infact, this document is similar to that of **Lease Procedure of 1963**, notified by CCF Peshawar to control and monitor the timber harvesting at the time of contract system.

The basic objective of Multipurpose Forestry Cooperative was, to improve the management and the protection of of Guzara Forests, ensure their development and make possible the utilization of higher revenues by the owners. *This remains a far cry in the wild.* Development of the forests through afforestation remained highly uncertain, erratic, and devoid of enthusiasm for subsequent protection, thereby resulting into large scale failures on which extremely high costs were claimed for this activity. On the other hand, *every eye remained focused on cutting of trees because this function generated money. The erstwhile discarded forest*





Forest Rest House in Kamalban Forest built in 1924-25

returns and watershed values by integrating sound silvicultural management practices, road engineering, soil conservation techniques, and effective supervision in a planned manner under one line of command and control.

This concept aimed at building the existing forest resource to produce at the level of its natural potential without deteriorating the productivity of the site. *Development of a network of good roads, improved logging and mechanized extraction to salvage mature and overmature stands, increased yield, improve quality of converted timber and ensure sustained yield, conservation of resources, erosion control, reclamation of degraded hills, raising the technical standard in forest management, infrastructure facilities for supervision and execution of silvicultural practices and protection are building stones of Intensive Forest Management. Detailed planning on scientific lines was first step to meet the management requirements of the forests.*

Following are essential components of Intensive Forest Management:

- **Inventory and Forest Management Planning**

A comprehensive detailed inventory and stand level planning is needed at larger scale, with reliable qualitative data at compartment and sub-compartment level.

- **Accessibility**

A forest road net work simple but durable technical standard



and low density has to be provided for basic opening up of the forest, supplemented with mechanical instruments for timber extraction.

- **Silvicultural Needs**

Correct choice of silviculture system, keeping in view the terrain, elevation, aspect, slope, soil moisture, development phase and ecological requirements of the forest stand(s) within a compartment are main ingredients. Even within a compartment, the ideal silviculture system has to be kept very flexible to meet the silvicultural requirement of forest stands and ecological significance of the site.

- **Training of the staff and officers**

Primarily, the capacity of the staff and officers is to be developed in silvicultural management, road engineering and mechanized logging and other allied silvicultural field activities.

- **Raising of Nurseries**

Immediate reforestation of cut over areas and blanks is an integral part and highly essential. Nursery raising and quality seedling production of tree species of different ecological zones and sub zones is necessary. Sufficient stock of suitable size is to be produced sustainably according to annual plan of operation. Besides, other cultural operations are to be carried out as regular feature of forest management practices.

- **Protection of regeneration areas**

This is an important part of the silvicultural operations, where new plantations of cut over areas and blanks are to be protected from nomads and local herds, who usually have the free access of grazing in the forests.

- **Organizational and administrative arrangements**

Duality of command i.e. Forest Department and Forest Development Corporation created a conflictive situation. All personnels and their functions were placed under one line of command and control. Extensive territorial jurisdictions are divided into small workable administrative units, thus developing the protective and development potential of the organization at operational level.

This concept of the forest management was applied in Reserve Forests of Kaghan valley, usually considered to be suitable area for such like experiments due to favorable social environments. The project assisted by Federal Republic of Germany was launched since 1980-81 in three different phases of five years each. Comprehensive planning documents were prepared and all essential components were applied



5.5.1. Deforestation vs Flood: Myth or Reality

The devastating flood occurred during September 1992, is strongly perceived and linked with timber harvest and deforestation in Hazara and Malakand civil division. It is probably useful to explore some scientific proofs related to this issue. The relevant excerpts from FAO publication is reproduced as under.

*'Much has been written about floods, their causes and impacts. Debate has been tense about how to prevent, mitigate and manage them. Each tragic event inevitably becomes a political issue. Political survival demands that Politicians are seen as responding to each crisis in quick fashion. Thus, officials seek immediate answers and short term solutions. In many countries, there is wide spread belief including among many foresters that forest can prevent or reduce floods. Therefore, an immediate, frequently drawn conclusion is that floods occur because forests have been cleared or degraded. Hence it is but a small step to presume that continuing deforestation of Asia's watersheds is the cause of misery brought to million of people every year. The reality, however, is that **direct links between deforestation and floods are far from certain.** In the case of upland/lowland as well as forest and flood relationships, existing 'knowledge' is frequently based more on perceived wisdom or myth, than on science. In the rush to identify the culprits for the most recent disasters, assumptions are made about processes in one region based on observations from other regions, which often have quite different environmental characteristics, or by extrapolating from small to large scales. Oversimplification is common, frequently leading to initiatives such as logging bans or the resettlement of the people residing in watershed areas often with minimal environmental benefits but very definite negative social and economic implications.*

Although a great deal is known about hydrological processes and the relationship between forests and floods, this knowledge is often used to make generalizations that are frequently inappropriate or misleading. There is a propensity to rely on simple cause -effect relationships, when in reality natural environments are extremely complex. It is commonly believed that forests are necessary to regulate stream flow and reduce runoff, and to some extent it is true. But, in reality, forests tend to be rather extravagant users of water, which is contradictory to earlier thinking (FAO 2003).

Contrary to popular belief, forests have only a limited influence on major down stream flooding, especially large scale events. **It is correct that on a local scale forests and forest soils are capable of reducing runoff, generally as a result of enhanced infiltration and storage capacities. But this holds true only for small scale rainfall events, which are not responsible for severe flooding in downstream areas. During a major rainfall event those result in massive flooding, occurring after**



5.6 Summary

In Pakistan, most of the natural coniferous forests are situated in KP (former NWFP). These forests have been degrading rapidly over the past three decades, partly from commercial over exploitation and partly from tremendous social pressure due to inevitable socioeconomic needs. The situation became strikingly open to a wider public when a catastrophic flood of September 1992 brought miseries to human life. This loss of resource and human life was publically attributed to degraded conditions of the forests in upper watersheds of KP. In particular, rightly or wrongly, FCS operating in timber harvesting since 1982, were severely criticized and blamed. Besides, FDC was also publically attacked for mismanagement and operational irregularities. In response to such public discussion and opinion, Federal and Provincial Governments reacted immediately and abolished FCS and imposed a general ban on all sort of commercial timber harvesting and suspended all ongoing working plans. With several renewals and one year relaxation in 2001, **this ban was in forced up to the present day (23rd May 2014).**

Different technical discussions, seminars, and meetings held to convince the Federal Government that, *timber harvesting is an integral part of forest management .Persistence of the long term ban on sustainable commercial harvest has disrupted management cycle of forest resource.* But, Federal Government somehow, did not agree or get convinced. The SDC's study safely concluded that *ban was largely ineffective in its primary objective to contain the deforestation.* Interestingly, this ban period was characterized by an almost hectic production of project documents, policy and strategy papers, evaluation reports, and detailed technical studies on various subjects in the forestry sector. *All these studies and documents converged in a common dominator i.e. the need and urgency of comprehensive reform in forestry sector of KP (former NWFP).*

Based upon the recommendations of these important documents including Forestry Sector Master Plan (FSMP), and interventions of other donor assisted projects a project namely Forestry Sector Programme (FSP) was launched with the financial assistance of the ADB for the period of 1996 to 2004. As an entry point to this important revolutionary change, i.e. to initiate sector reform processes, Institutional Transformation Cell (ITC) was established. The detail of all such institutional reforms, its present status and impact, are being discussed in the next chapter.





Muhammad Iqbal Swati

The author, Muhammad Iqbal Swati was born in a village near Garhi Habibullah. He did his matriculation from Government high School Garhi Habibullah in 1964, and graduated in basic sciences from Post Graduate College, Abbottabad in 1968. After graduating, joined Pakistan Forest Institute (PFI), Peshawar and did B.Sc. Forestry with distinction in 1969-71 Course. After serving for three years in Forestry Research Division in PFI, appeared in superior forest service competitive examination of NWFP (now Khyber Pakhtunkhwa), Forest Service. After selection he did his M.Sc. Forestry in 1974-76 Course with distinction (Gold Medalist). After serving for 5 years in staff and basic field positions, joined Michigan State University, East Lansing, USA and did MS in Forest Management. After return from USA, served as DFO in territorial and staff positions till February 1994 and then promoted as conservator of forests. As Conservator, served in all territorial circles of NWFP, and foreign funded field projects till 2005. After further promotion served as Management Director, Forest Development Corporation, and Chief Conservator of Forests and retired from Forest Service Khyber Pakhtunkhwa in March 2008.

Attended short courses in natural resource planning at University of Washington Seattle, USA, Social forestry, NRM conflict management, and participatory watershed management at ICIMOD, Nepal and RECOFT. The author has many publication on various aspects of forestry. The author has also published **Trees of Western Himalayas – A Field Guide**.

