FORESTRY SYSTEMS IN PAKISTAN

ASSESSMENT OF FOREST TECHNICAL AND EXTENSION SYSTEMS TO ENHANCE INSTITUTIONAL COMPETENCE – PAKISTAN

March 2022

REDD+
Pakistan

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The authors acknowledge the immense contribution made by several actors in the completion of this important study, carried out at the national level.

This report is the product of outstanding collaboration of forestry sector organisations across all sub-national units in the country. The report assesses the current situation of forestry sector in respect of institutional capacities, governance issues, policy and legal aspects, financial and human resource limitations, and technical and extension situation analysis. It also suggests strategy to improve the governance mechanism and recommend future roadmap to transform the sector into vibrant and progressive model to meet the required emerging challenges.

The key message of the report is that the Forestry Sector of Pakistan must respond to the challenges ahead by improving its technical and extension systems with enhanced institutional competence and coordination with multi-sectoral actors. It is time to move forestry to the centre stage of the development agenda for the country and its people.

The study team would like to thank the Forest Carbon Partnership Facility of the World Bank and the National REDD+ Office (NRO) of the Ministry of Climate Change for initiating this important study. The team sincerely thanks NRO and all the sub national Forest departments for their time and generous support, including their contribution to the provision of data necessary for completing this study. This document will serve as a useful reference on several aspects of promoting forestry technical and extension systems in Pakistan.

EXECUTIVE SUMMARY

As per the 1973 Constitution of Pakistan, forestry is a provincial subject implying that state forestlands belong to sub-national entities and management of these resources is mainly the responsibility of the forest departments of the six sub-national entities – four provinces, Azad Jammu Kashmir and Gilgit-Baltistan. Forests are the main sources of timber and fuelwood in the country and contribute to protection of watersheds, conservation of biodiversity, and provide habitat for wildlife. Forests also provide various goods and services in the shape of non-timber forest products and help in mitigation of climate change impact as carbon sink.

This study on 'Assessment of Forest Technical and Extension System to Enhance Institutional Competence' has three specific objectives to; i) evaluate, understand and analyse the existing technical and extension systems in vogue including coordination mechanisms at federal and provincial levels; ii) assess the constraints in terms of finances and manpower of each of the provinces, territory, and that of the Office of the Inspector General of Forests (OIGF); and iii) identify the province/ territory wise new roles of forest departments (technical and extension) and recommend future coordination mechanisms between federal and provincial governments regarding implementation of forest related activities.

The study was conducted in cooperation with the National REDD+ Office at the Ministry of Climate Change and Forest Departments of the six sub-national entities. The main methodology used for data collection and analysis was literature review, key informant interviews, Focus Group Discussions and national and provincial workshops with participants of relevant stakeholders.

The study systematically reviewed policies and legislation, technical forest management systems, forestry extension systems, human and financial resources, and organizational roles, responsibilities, and internal and external coordination mechanisms. It identified gaps and formulated general recommendations which are complemented with specific recommendations for the sub-national forest departments and Office of the Inspector General of Forests at the Ministry of Climate Change. The key findings are as follows:

- The provinces do not have a well-defined extension system to engage with communities. With the exception of Khyber-Pakhtunkhwa and Punjab provinces, other sub-national entities do not have dedicated staff for extension services.
- National Forest Policy 2015 and policies of the sub-national entities (where exist) emphasize on principles of collaborative forest management for sustainability. Collaborative forest management in practice however is not mainstreamed in forest management. Existing forestry legislations do not have provisions to formally engage stakeholders.
- Policies and legislation pertaining to other sectors such as agriculture, livestock and mining are not harmonized with forest policies and are not supportive for protection and sustainable forest management.
- The role of forests in mitigating climate change and enhancing biodiversity is increasingly being realized at policy and implementation levels. As a result, carbon sequestration and other environmental functions of the forest are taking importance as opposed to protection of forest for timber production.
- The sub national forest departments and OIGF face staff shortage. Existing staff lack capacity to deal with emerging challenges such as climate change mitigation and participatory forest management.
- Financial allocation to the forestry sector has increased by 57% in non-development and 166% (discounting inflation) in development budgets, mainly due to initiation of large-scale programmes since 2010.
- Coordination between federal and sub-national forestry sector entities is improving especially due to the REDD+ programme through the OIGF.

- There are a few good examples of coordination with external actors relevant to forestry sector. A stronger joint deliberation is, however, required to expand technical awareness to other sectors to reduce implication of sector specific schemes for forestry resources.

ACRONYMS

ADP	Annual Development Programme
APAFRI	Asia-Pacific Association of Forestry Research Institutions
BOR	Board of Revenue
CBD	Convention on Biological Diversity
CDEGAD	Community Development, Extension, Gender and Development
EAD	Economic Affairs Division
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FDF	Forestry Development Fund
FGD	Focus Group Discussion
FRF	Forest Regeneration Fund
FREL	Forest Reference Emission Level
FSMP	Forestry Sector Master Plan
GCF	Green Climate Fund
GEF	Global Environmental Facility
GGI	Green Growth Initiative
HR	Human Resource
ICGG	Inter-Ministerial Committee on Green Growth
ITZs	Integrated Tourism Zones
IUFRO	International Union of Forestry Research Organizations
LFCC	Low Forest Cover Countries
LULUCF	Land Use, Land Use Change and Forestry
MEA's	Multilateral Environmental Agreements
NDCs	Nationally Determined Contributions
NRO	National REDD+ Office
NSC	National Steering Committee on REDD+
NTFPs	Non-timber Forest Products
OIGF	Office of the Inspector General Forest
PBS	Pakistan Bureau of Statistics
PES	Pakistan Economic Survey
PFI	Pakistan Forest Institute
PFRI	Punjab Forestry Research Institute
PRMCs	Provincial REDD+ Management Committees
PSDP	Public Sector Development Programme
RAM	Reporting, Assessment and Monitoring
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDGs	Sustainable Development Goals
SDPI	Sustainable Development Policy Institute
SFM	Sustainable Forest Management
SWOT	Strength, Weakness, Opportunity, and Threats
TBTTP	Ten Billion Trees Tsunami Programme
TNA	Technical Need Assessment
UNCCD	United Nations Convention on Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
WB	World Bank

1 INTRODUCTION

1.1 Background

With 220 million people, Pakistan is the 6th most populated country in the world with a 2.1% population growth rate[1]. Although the human development index (HDI) of Pakistan is slightly rising (152 out of 188 countries in 2019), yet the country falls in the category of low HDI countries[2]. Around 38.5% population (mostly rural) reportedly lives under multi-dimensional poverty[3]. A large population of the country constitutes youth which is a challenge as well as an opportunity.

The total forest cover of the country is 5.45% of the total land area[4]. This is low considering the large population and exposure of the country to future climatic threats. By forest type, the dry temperate forests have the largest proportional coverage (36%) followed by sub-tropical broadleaved scrub (19%), moist temperate (15%), sub-tropical chir pine (13%), riverine (4%), irrigated plantation (4%), thorn (4%), mangrove (3%) and sub-alpine forests (2%). Pakistan is among the lowest per capita forest cover countries with 0.02 hectare (ha) when compared to the world average of 1 hectare[5]. Pakistan Economic Survey 2020-21 reported that the contribution of the forestry sector has been only 0.40% in GDP, growing by 1.42%**.** This figure does not reflect the monetized contribution of the forestry sector through its eco-system services to other sectors or the economy as a whole. In comparison, forestry sector in India contributes 1.7% to its GDP, Bhutan 2%, Bangladesh 2.32%, and Nepal 15%.

A large segment of the population is dependent on forests for fuel, timber, fodder, and other products. An estimated 84% decline of forest area is attributed to domestic energy requirement by growing population (Fischer et al. 2010).

A study by the Rights and Resource Initiative (2012)[6] estimates the average annual deforestation up to 11,000 ha during 2004-2012 with an increasing trend of more than 17,000 ha during 2008-2012. Most of the areas affected by deforestation between 2004 and 2012 consisted of riverine (34%), scrub (20%), dry temperate (19%), tropical thorn (14%), and chir pine (13%). The mean annual emissions from deforestation were estimated to be 946,653 tons CO_2 equivalent (tCO_2 eq)/year with an increasing emission trend from deforestation. The largest share of CO_2 emissions originates from dry temperate (34%), riverine (27%), chir pine (16%) and moist temperate forests (11%), followed by scrub (9%) and thorn (3%) forests during 2004-2012.

A continuous historical decline in forests in Pakistan suggests that the existing forest management system cannot produce desired results and need to be reviewed for improvement. The Ministry of Climate Change, Government of Pakistan is currently implementing a project on REDD+ readiness funded by the Forest Carbon Partnership Facility (FCPF) of the World Bank. Under this project several studies, including this study, are currently being conducted to strengthen the forestry sector of Pakistan This study explains the current technical and extension systems of the country and presents recommendations on how to improve them to promote forestry in the country.

The main objective of study is to 'Assess Forest Technical and Extension System to Enhance Institutional Competence' and the specific objectives are:

   i)   Evaluate, understand, and analyse the existing technical and extension systems in vogue including coordination mechanisms at federal and provincial levels.

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[1] http://data.worldbank.org/country/pakistan
[2] UNDP report – multidimensional poverty in Pakistan - 2017
[3] Government of Pakistan NDCs 2016
[4] https://redd.unfccc.int/files/1._unfccc_frel_pakistan__final_with_proofread_-final.pdf
[5] https://data.worldbank.org/indicator/AG.LND.FRST.ZS
[6] Rights and Resources Initiatives (https://rightsandresources.org/), 2012

ii) Assess the constraints in terms of finances and manpower of each of the provinces, territory, and that of the Office of the Inspector General of Forests (OIGF).

iii) Identify the province/ territory wise new roles of forest departments (technical and extension) and recommend future coordination mechanisms between federal and provincial governments regarding implementation of forest related activities.

1.2   Approach & Methodology Adopted for Assessment

The assessment of forest technical and extension systems took place through a combination of literature review and country wide consultations. In brief, the following approach and methodology was adopted for this assessment:

1.3.1 Stakeholder Identification and Consultation

At the planning stage, key stakeholders were identified for inclusion in the consultation process through workshops, interviews, and key informant discussions. These stakeholders include senior staff of the sub-national Forest Departments, OIGF, community representatives and retired staff of the Forest departments with long-time experience in the forestry sector of Pakistan.

1.3.2 Literature Review

A comprehensive review of sectoral policies, legal frameworks, best practices in forest management at national and sub-national levels and historical records of forest management in the provinces was conducted. Further, relevant literature from internationally reputed forestry publications, scientific journals, resolution and framework of relevant environmental conventions, and specific reports recently developed were also reviewed. Work already performed by the provincial forest departments on revision of forestry manuals, sectoral policies, and rules was also examined.

1.3.3 Data Collection

Data collection followed several online and face to face meetings within the team, REDD+ focal points and relevant senior staff of the sub-national forest departments for updating relevant information. The data was collected in a systematic manner as follows:

- An assessment tool was developed for secondary data collection. The data collection tool was pretested for improvement in a workshop at the Thai Forest School Abbottabad in Khyber Pakhtunkhwa (**Annex II**). The secondary data collected was validated during the Focus Group Discussions (FGDs) and Key Informant Interviews (KII).
- Seven FGDs were conducted with 28 forestry experts and managers to determine the status of current management systems, ability to meet demands and identify areas of improvement in the overall technical and extension (management and governance) systems of the forestry sector. The FGDs included respondents from non-forestry service, such as Sarhad Awami Forestry Ittehad Khyber Pakhtunkhwa, Nanga Parbat Foundation Gilgit-Baltistan, Mangrove Forest Activists (Sindh), other organized community groups in various provinces, and representatives of forest communities.
- Six consolidation workshops were held with all major tiers of the forest departments and stakeholders at sub-national level, where information collected during FGDs, and consultation rounds were presented to further enrich information. The feedback received during workshops was incorporated. Around 87 participants including senior officials of the sub-national forest entities, retired forest officials with institutional memory, representatives of relevant forestry sector stakeholders and communities participated in the workshops **(Annex-III)**.
- Data regarding roles and responsibilities of the Office of the Inspector General of Forests (OIGF) was acquired through consultation with relevant officials of the OIGF. During this exercise, findings from sub-national entity workshops were discussed for feedback.

- Secondary data (e.g., financial allocations, human resources, manuals, rules) was acquired from the forest departments in all the provinces.

1.3 Structure of the report

Chapter 1 covers the context and background information, specific objectives of the study, approach, and methodology for the data collection.

Chapter 2 provides an overview of forestry sector's existing technical and extension systems in practice in Pakistan. This chapter covers legal and ecological aspects, roles, responsibilities of forest management authorities, coordination mechanism, forestry extension and outreach, financial and human resources, and institutional challenges and constraints.

Chapter 3 discusses strategies for improved governance and institutional arrangements. These are broadly grouped as responsibilities of OIGF, future coordination mechanism, improvement in financial and manpower capacities, enhanced extension, and outreach systems, and addressing policy gaps and revision of forestry manual.

Chapter 4 provides summarized conclusions and recommendations

2   OVERVIEW OF EXISTING TECHNICAL AND EXTENSION SYSTEMS

2.1   Defining technical and extension systems

Technical systems refer to the professional science-based expertise to be used for forest management. It includes the continuous development of knowledge on forests and technological management tools based on scientific research.

Another aspect of the technical systems concerns the technical way forests are being managed. It deals with forest management planning, forest utilization, forest regeneration, and forest resource monitoring. It includes technical recommendations for forest management which are directly linked to the application of research results in the management of forests, for example enhancement of biodiversity conservation, carbon sequestration and other ecological services. The link between research and applied technical forest management is crucial in keeping forest management up to a high standard.

Forestry extension refers to the task of the forest services of engaging local communities in forest management (Onumadu et al., 2001). International experience in forest management for over more than a century has shown that forest departments cannot manage forests sustainably without involving communities living in or around the forests. Extension theory and practice has evolved during last 4-5 decades from concepts of transfer of technology and market-oriented extension systems to facilitate participatory and social learning.

The last few decades of increased population pressure resulting in increased legal or illegal use of forest resources have shown that sustainable forest management cannot succeed without involvement of local communities (Agbogidi, and Ofuoku, 2009). This process of engagement is termed forestry extension. It includes guiding and involving local communities in planning, utilization, regeneration and monitoring of natural resources. It requires benefit sharing mechanisms that take the livelihood of the community into account. Forest extension includes promotion of plantations on private lands and development of agroforestry systems, dissemination of relevant information, and advice to farmers.

As per agreed ToRs of the assignment, the following aspects of technical and extension systems of the forest services are examined in this study:
- Legal context of forests and forest management
- Policies and policy implementation
- Technical management of forests
- Forestry extension and outreach
- Organizational roles and responsibilities
- Coordination mechanisms
- Human and financial capacities

2.2   Legal context of forests and forest management

Forest management systems in Pakistan being applied in different provinces vary depending on the forest classification and rights/ ownership/ tenure regimes in the respective provinces. The main legal categories of forests include Reserved, Protected, Unclassed, Resumed, Guzara and Communal forests. Forest types based on vegetative and ecological parameters include coniferous, scrub, riverine, coastal, and irrigated forests.

The first Forest Act in sub-continent was passed in 1865 and subsequently rules were framed under this Act for protection of forest in 1872. Under the amended Regulation, the tree bearing lands of Hazara were divided into two categories: The Government Reserved Forests and the public wastelands, later called the *'guzara'* forests. The Reserved Forests were handed over to the Forest Department for management and the *guzara* forests were set aside to meet the domestic requirements of the local people. The Government retained the right to conserve and manage them and charged a share on their sale proceeds known as the 'seigniorage fee'. The later decades of the 19th century (1871-1900) were marked by the passing of forest legislation,

reservation of forests, forest settlement, demarcation, survey, and protection (GM Khattak, 1976).

The 'Indian Forest Act, 1927', was under implementation when Pakistan and India were created as two sovereign independent countries in 1947. The same Act was adopted by Pakistan with the changed name of Pakistan Forest Act 1927. The Act contains provisions for declaration and protection of forests. This law applies to the state-owned reserved forests, protected forests, communal forests, and privately-owned lands managed by the Forest Departments.

The subject of forestry falls in the provincial domain. The provincial Governments and Governments of Gilgit-Baltistan (GB) and Azad Jammu & Kashmir (AJK) are responsible to manage forest resources in their respective jurisdiction under different tenurial and legal and customary concessional rights (see also box 1). The state-owned forests in Punjab, Sindh, and Islamabad Capital Territory (ICT) are managed under the Forest Act 1927; whereas in Balochistan both the Forest Regulation 1890 (amended in 1974) and the Forest Act 1927 are applicable simultaneously, and in GB forestry resources are managed under GB Forest Act 2019. In the KP province the Forest Ordinance 2002 is in practice. The Government of AJK manages its forestry resources under the AJK Forest Regulation 1930 (Amendment) Act 2017.

Box 1: Legal and traditional forms of concessional rights

Forests in Pakistan are largely burdened with either legal or traditional forms of concessional rights. Managing this situation by balancing rights and resources is the duty of sub national forest departments. Forest rights, with the exception of 'Reserved Forests', are in practice since land settlement was done in late 18th and 19th centuries. Reserved Forests as a matter of legal provisions are often less encumbered with rights of local communities and conserved through enforcement of forest laws. Protected Forests have legally admitted rights of all descriptions as recorded in "*Bandobast e Dowami*", including grazing, grass cutting, lopping for fuelwood and above all cutting of 3 mature trees every 5 years for repair of houses (*Haqdaris*) and even one mature tree at the demise of a family member of the right holders for burial purposes. The public forests are managed, protected, and conserved through a regulatory and punitive legislative framework by the Forest Departments. They, however, lack public ownership – that is the responsibility for sustaining forests taken by the public at large – and public participation in management of the forests. Guzara forests in Punjab and KP (Hazara) are managed in accordance with Guzara Forest Rules, 1950, allowing removal of dry wood and brushwood for domestic and other purposes. Private Forests in AJK are exploited under "Sale and development of Private Forests Rules, 1984".

In GB, private forests are managed by the GB Forest Department. In addition to above management arrangements trees outside forests, such as trees grown on farms (agroforestry) are controlled by farmers, and trees along roads and canals are jointly managed by Forest and Irrigation Departments.

In Balochistan only 7% of the forests are under control of the Forest Department. Communities own 90% of the Chilgoza (pine) forests. The department exercises management function only.

The functions of the Federal Government regarding forests are given in the Rules of Business 2012. The Office of the Inspector General of Forests (OIGF) in the capacity of technical wing of the Ministry of Climate Change (MoCC) is mandated to perform functions of 1) formulation of national policy, plans, strategies and programmes regarding ecology, forestry, wildlife, biodiversity and desertification, and 2) coordination, monitoring, and implementation of environmental agreements with other countries, international agencies, and forums.

The current forest laws and regulations at the sub national level (**Table 1**) are mostly deficient and have yet to incorporate modern management requirements for changing scenarios in the forestry sector. These changes may include mainstreaming community participation, benefit sharing with forest-dependent communities, biodiversity conservation, payment for ecosystem

services, climate change adaptation, REDD+, landscape and ecosystem-based management and buffer zone management around protected areas.

Table 1: Forestry Laws and Regulations in Pakistan

National & Sub-national Entities	Acts/ Ordinances	Other Supportive Laws/ Rules
OIGF	- Pakistan Forest Act 1927 - (The Indian Forest Act 1927 which was adopted by Pakistan after 1947 as Pakistan Forest Act 1927)	- The Pakistan Climate Change Act, 2017 - The Pakistan Trade Control of Wild Fauna & Flora Act 2012 (CITES Law) & Rules 2018. - Draft National Access and Benefit Sharing Law 2012 (Nagoya Protocol)
Punjab	- Forest Act 1927 amended 2016	- The Punjab Wildlife (Protection, Preservation, Conservation and Management) (Amendment) Act 2007 - Guzara Forest Management Rules 1912 - Punjab Protected Areas Act 2020 - The Chos Act 1900 (Chos Act Areas) - Punjab Local Government Land Use Plan (Classification, Re-classification, and Redevelopment) Rules 2020.
Sindh	- Forest Act 1927 - (Revision in process as Sindh Forest Act - not yet approved & notified)	
Khyber Pakhtunkhwa	- The Khyber Pakhtunkhwa (NWFP) Forest Ordinance 2002 - Brushwood Act 1954	- KP Management of Guzara Rules 2004 - Community Participation Rules 2004 - KP Mazri Control Rules 2004 - KP Forest Produce Transport Rules, 2004
Balochistan	- Both Forest Regulation 1890 and Forest Act 1927. - Draft Balochistan Forest Act 2018 in process of approval.	- Balochistan Wildlife (protection, preservation, and conservation) Act 2014 & Rules 2015 - Balochistan Rules of Business 2012
Gilgit-Baltistan	- GB Forest Act 2019 (All other previous laws repealed) - Chilas Private Forest Act 1972 - Now merged into new Forest Act 2019	- Wildlife Act 1975 – till 2019
AJK	- AJK Forest Regulation (Amendment) Act 2017	- AJK Wildlife (Protection, Preservation, Conservation and Management) Act, 2014 - AJK Environment Protection Act 2000 - AJK Tourism Promotion Act 2019 - AJK Mining Rules 2002

Source: OIGF and Sub-national Forest Departments – 2021.

2.3 Forest Policies and Policy Implementation

This section gives a brief overview of the policies that remained active in Pakistan. Historically most of policy initiatives were aimed at forest protection and conservation and largely ignored the provisions for community participation or participatory forest management. The mindset behind such policies was to see communities as intruders (Nizami, 2012; Shahbaz, 2009; Shahbaz and Ali, 2009; Ali, 2010; Ali, 2009; Nyborg, 2002). However, the continuous degradation of forests suggested that the management results were not essentially in favour of the resources nor people (RRI, 2013; Fischer et al 2010; FAO, 2010; FAO 2007; Ahmad and Mahmood, 1998).

Box 2: Forestry Sector in Pakistan need legal reforms

> In 1947, Pakistan adopted the Indian Forest Act 1927 and renamed it as the Pakistan Forest Act 1927. Since then, most of the provincial forest departments, such as GB, Punjab, Sindh, and partly Balochistan, are using this act as their principal legal framework to manage forest resources. KP and AJK have made necessary changes to the act through the KP Forest Ordinance 2002 and the Jammu and Kashmir Forest Regulation (Amendment) Act 2017.

National policies

The current national forest policy was approved in 2015. It provides new concepts such as sustainable forest management, stakeholder participation, biodiversity conservation, and promotion of ecological, social, and cultural functions. In addition, other sectoral policies like the National Climate Change Policy 2012 and the National Environment Policy 2005 also recognize the importance of forest conservation measures. Similarly, draft national wetland and wildlife policies are in line with the objectives of national forest policy. Also, approved strategies and plans like Mangroves for the Future (MFF) and National Biodiversity Strategy and Action Plan (NBSAP) to implement provisions under CBD are supportive to the overall objective of the national forest policy.

Pakistan has submitted its updated NDCs (Nationally Determined Contributions) to combat climate change related negative impacts (MOCC, 2021). Under this submission, the country intends to reduce up to 50% of its 2030 projected GHG emissions with a 15% reduction using the country's own resources and an additional 35% subject to the availability of international financial support. The targets include sequestering 148.76 MtCO2e emissions over the next ten years through the Ten Billion Trees Tsunami Programme (TBTTP), and in the short-term enhancing protected areas from 12% to 15% in 2023. The important component of the updated NDC submitted to UNFCCC is to adopt a path of clean energy and strengthen its poorly managed forestry sector. The guiding policy documents in this regard are National Climate Change Policy 2012 (revised in 2021) and National Forest Policy 2015 providing a framework for addressing the challenges of climate change adaptation and mitigation in Pakistan. Pakistan also adopted the Sustainable Development Goals. Pakistan is one of the few countries that achieved 'Sustainable Development Goal 13: Climate Action' in 2020. This goal is not so much related to specific climate mitigation or adaption targets; those are left to the NDC. It rather refers to laying the foundation to achieve the targets of the NDC. It includes knowledge and capacity building activities on climate change and climate related disasters, the integration of climate change measures in policies and planning (PC-1s), as well as the implementation of UNFCCC (action plan for NDC) and the promotion of mechanisms to raise capacity for management and planning (number of capacity building activities).

Sub-national Forest Policies

KP, Punjab, and Sindh provinces have approved forest policies, which were promulgated in 1999 and 2019, respectively. Forest policy formulation process in Balochistan and GB has been initiated recently, whereas a revised draft forest policy 2019 is under implementation in AJK (**Table 2**).

The basic goal of these sub-national approved and draft policies is to put Pakistan on a sustainable forest management path. The progress in this regard should be measured through

improvement in the health of forests and increase in forest cover. Other sub national policy instruments and plans such as policies on wildlife, climate change, environment, and provincial biodiversity strategies and action plans are also important building blocks to support management of forests on sustainable basis. In case of KP the forest department has a challenge ahead to integrate management of the forests of the newly merged districts (erstwhile FATA) in its policies and operations.

Pakistan's recently developed national forest policy is an attempt to align with country's national needs and international obligation. The process of alignment and harmonization for and among various frame conditions relevant to forest resources may be needed at sub national level.

Table 2: National and Sub-national Forest Policies in Pakistan

National & Sub-national Entities	Policy Instruments	Other Supportive Policies/ Plans
Ministry of Climate Change - OIGF	National Forest Policy 2015	National Climate Change Policy 2012 National Environment Policy 2005 Draft National Wildlife Policy 2018 Draft National Wetlands Policy 2010 Draft National REDD+ Strategy 2020 National Action Plan & Strategy for Mangrove for the Future 2014 National Biodiversity Strategy & Action Plan (NBSAP) 2017 National Action Plan to Combat Desertification 2016 (UNCCD)
Punjab	Punjab Forest Policy 2019	Punjab Provincial Biodiversity Strategy & Action Plan year 2018
Sindh	Sindh Sustainable Forest Management policy 2019	Sindh Provincial Biodiversity Strategy & Action Plan year 2018
Khyber Pakhtunkhwa	Khyber Pakhtunkhwa Forest Policy 1999	KP Provincial Biodiversity Strategy & Action Plan, 2016
Balochistan	No Provincial Forest Policy. Work on formulation of provincial forest policy initiated.	- Balochistan Wildlife Policy 2019 - Balochistan Biodiversity Strategy & Action Plan 2018
Gilgit-Baltistan	Forest Policy, and Range Management Policy of GB are under preparation.	GB Biodiversity Strategy & Action Plan year 2018
AJK	AJK Forest Policy 2014 revised/ updated in 2019 (un-approved)	- AJK Climate Change Policy 2017 - AJK Biodiversity Strategy & Action Plan 2018

Source: OIGF and Sub-national Forest Departments – 2021.

Annex IV provides a snapshot of the main objectives of the sub national forest policies.

At level of objectives, all sub-national forest policies mention the importance of sustainable forest management and forest use broader than timber production. They refer directly or indirectly to biodiversity conservation and addressing climate change. They also state that they contribute to meeting national and international commitments. In GB and Balochistan where policy

development is in process, the protection function of forests has been highlighted for fragile watersheds and for poor communities.

2.4   Technical management of forests: objectives, strategies, tools and monitoring

The forests of Pakistan reflect great physiographic, climatic, and edaphic contrasts. Pakistan is an oblong stretch of land between the Arabian Sea and Karakoram mountains. Topographically, the country has a continuous massive mountainous tract in the north, the west and south-west and a large fertile plain, the Indus plain (PFI 2016). Based on climatic conditions, topographical variations and climax vegetation species, Pakistan possesses different forest types (see **Table 3 for details)**.

Table 3: Forest Types in Pakistan.

Sub-national Entity	Different Forest Types
Khyber Pakhtunkhwa	Coniferous forests (Himalayan moist and dry temperate and sub-tropical pine forests), scrub forest (sub-tropical broad-leaved evergreen forest, mazri forest), linear plantations, trees on private lands.
Punjab	Coniferous forest (Himalayan moist temperate and sub-tropical pine forest), scrub Forest (Subtropical Broadleaved evergreen forest and Subtropical Dry Deciduous Forests), tropical thorn forest, riverine forest, irrigated and linear plantations, trees on private lands.
Sindh	Riverine forests, scrub forest, tropical thorn forest, mangrove forests (coastal forest), irrigated plantations, trees on private lands (hurries).
Balochistan	Juniper Forest, chilghoza forest (coniferous dry temperate forests), alpine scrub, mangrove forest and canal side plantations.
Gilgit-Baltistan	Coniferous forest (Himalayan moist and dry temperate forests), sub-alpine and alpine scrub forests, trees on private lands.
AJK	Coniferous forest (Himalayan moist temperate and sub-tropical pine forests), scrub forest (sub-tropical broad-leaved evergreen forests), trees on private lands.

Source: Champion, Sethi and Khattak, 1965)

Forest management systems being applied in different sub-national entities of Pakistan vary depending on the forest classification (vegetation types) and legal categories (tenure and user rights) in respective provinces. The main categories of forests based on legal classifications include State, Reserved, Protected, Guzara, Unclassed, Resumed, and Communal forests. The forest management working plans of the forest departments are generally approached from a traditional perspective, geared mainly to the objective of conservation and the production of timber (although a ban on timber harvesting exists) and somehow taking into account the local use of 'by-products' such as firewood, grasses/grazing and non-timber forest products (NTFPs). The emphasis is on 'territorial forestry', i.e., state-controlled forests, which has always had its focus on the production of timber, and not on other objectives.

There are several (traditional) silvicultural systems in practice throughout the world (Troup 1952). The systems, applied in Pakistan are adaptations of some of these systems. When the regeneration is of seedling origin, the systems are termed *High Forest systems*, as contrasted with the *Coppice systems*. If the forests contain trees of all age classes and regeneration operations are dispersed throughout the whole forest, the system will be classed as a *Selection system*. Alternatively, in case forest compartments contain trees of a restricted age range only and regeneration operations will be limited to units in which the trees are near the end of the rotation, the system will be called *Concentrated regeneration system*.

The atmospheric carbon dioxide (CO_2) is a major factor in forest productivity and at the same time forests play an important role in mitigation and control of climatic conditions when they uptake or sequester large amounts of carbon or release CO_2 to the atmosphere. The climate change will have an impact on forest ecosystems. If appropriate and timely actions are not taken the impact will be greater. Pakistan has already changed the forest management from forest

extraction to conservation. Due to challenges posed by climate change coupled with biodiversity loss and increasing population pressure on forest, the forest management strategies also need to be updated engaging local communities. Consequently, forest monitoring systems would need adjustment to these new objectives, including developing improved forest monitoring and measurement techniques and indicators. The current monitoring system is mainly geared towards afforestation targets, survival and regeneration rates. Use of technology in forest monitoring (e.g., GIS) is still in its infancy stage in the provinces.

Continuous learning from the latest research and new approaches to sustainable forest management is missing. Some development in this regard is, however, noted particularly in KP and Punjab with the presence of extension wings which were also intermittently supported by different national and international donor funded projects. Such improved strategies, however, have not been mainstreamed in the forest management working plans and reflected in the human resources.

The use of new tools and methods are now being introduced especially with the introduction of REDD+ Readiness initiatives in Pakistan. Under the REDD+ initiative, capacities of sub-national forestry departments have been built in various aspects of REDD+ implementation including monitoring reporting and verification (MRV) systems. Various forests monitoring equipment has been distributed among the provinces to strengthen forest monitoring capacities. The equipment includes remote sensing drones, GIS plotter, handheld GPS, Laser Vertex with transponder, increment borers, laptops, DSLR camera, video conferencing equipment, crown densimeter, soil auger and tapes. KP, GB and Punjab provinces have well established institutional capacities and resources (GIS labs, forest monitoring equipment, and HR etc.) to undertake independent inventories and assessments. However, these facilities so far have not been mainstreamed in forest monitoring and planning. The Pakistan Forest Institute also possesses institutional setup and infrastructure to undertake research assignments.

2.5   Forestry extension and outreach

The objective of forestry extension and outreach is to promote problem solving and participatory multi-stakeholder approaches to enhance the contribution of trees and forests to sustainable land use. Forestry extension mainly focuses on the facilitation pertinent to the livelihoods of stakeholders by involving them into forestry and NTFP related activities. All the subnational entities claim that they have been effective in reaching out to the people and participatory decision-making process is followed in forest management. They, however, recognize the need to further develop their capacities in this field of participatory forestry.

Presently, extension services are limited to small-scale agroforestry, guzara forests, farm forestry, and private forestry (hurries & irrigated plantations on farmland). Application of this concept (and collaborative forest management/community/participatory approaches) state-controlled forests is generally lacking. Forestry extension not only can support the departments and communities in planning and implementation of sustainable forest management approaches, but also in making the arrangements for benefit distribution with all stakeholders involved. In the context of REDD+ the benefits accruing from result-oriented REDD+ actions could be transferred to legal owners and right holders of forests in accordance with the benefit distribution mechanism which is yet to be developed as prescribed in Pakistan's National REDD+ strategy.

Instruments mostly applied in the forestry extension service include, face-to-face communication, use of print and electronic media, demonstration sites, vocational training and education, websites, and social media. Incentive-based motivation approaches are also applied, e.g., payment for community watch and ward.

Communication with the general public on implementation of REDD+ activities, being a complex subject is still in its infancy mode. In this regard the National REDD+ Office (NRO) Ministry of Climate Change (MoCC) has developed a Strategic Communication Plan. This plan suggests platforms for stakeholders' engagement to pursue and ensure implementation of REDD+

activities and provides future guidelines for REDD+ related awareness activities and outreach and communication tools both at national and provincial levels.

2.5.1 Evolution of forestry extension and outreach

Forestry extension, social and participatory forest management approaches were introduced in the 1990s. Anthropogenic pressure on forestry resources (such as livestock grazing, illegal tree cutting, conversion of forest lands, encroachment, political interference) was recognized by various researchers with disaggregated analysis on what was to be acknowledged as local need and could not be termed as intrusion, and malpractices that needed a governance-oriented approach than mere punitive arrangements. The narrative in favour of participation of local communities became strong and received recognition for sustainable forest management. Collaborative forest management approaches were experimented in different tenures (such as protected, communal and private forest areas) and ecological settings (high altitude coniferous forests and lower altitude forests and farmlands). These projects included the Swiss funded Kalam Integrated Development Project, the Dutch Funded Social Forestry Project Malakand-Dir, the German funded Kaghan and Siran Valley Development Projects, EU funded Environmental Rehabilitation Projects, the USAID funded Farm Forestry Project, the ADB funded Forestry Sector Project, the Swiss funded support to the Forest Management Centre on Joint Forest Management and the Swiss funded Integrated Natural Resource Management Project. Most of these projects were operational in KP and GB. Whereas the afforestation schemes by Agha Khan Rural Support Programme, funded by NORAD and others in GB, the social forestry projects funded by the USAID in Punjab and Sindh and Farm Forestry Support Project funded by SDC mainly focused on promoting tree plantations and forestry on farm/private lands. These projects clearly indicated the opportunities for collaborative forest management.

In KP these initiatives led to the adoption of a new Forest Policy 1999 and Forest Ordinance 2002 and the creation of a number of institutional organs such as the Forest Round Table and Forest Commission. A forestry extension directorate was established in the Forest Department along with other thematic directorates to support territorial forestry. While the reform process was complete before the projects phased out, the change management within the structurally reformed department slowed down, especially with respect to full implementation of community participatory approach. In the other provinces, the projects did not have the same scale and effects.

Somehow, farm forestry was accepted by the citizens and farmers as a valuable intervention in all the provinces. Ideas of collaborative forest management, however, are not applied yet.

Currently few NGOs and CBOs have the capability to undertake capacity building or implementation in the field of forestry extension. In the public sector, with the exception of KP Forest Department and the recently established extension wing in Punjab Forest Department, no such activities are operational in other sub-national forest entities. Sindh Forest and Wildlife department has a dedicated Social Forestry wing headed by a CCF and its mandate is limited to promotion of social/farm forestry and urban forestry. On the contrary, agriculture departments all over the country have well established extension and outreach services and programmes to encourage, motivate and equip farmers with innovative approaches and technologies. Linking and learning with the agricultural departments may benefit the forestry sector, especially regarding farm forestry approaches and interventions[7].

2.5.2 Sub-national Assessment

The situation at sub-national level regarding public engagement is not fully optimal yet. Only KP has some sort of forestry extension setup on permanent basis, and they are capitalizing on this for REDD+ mass communication purposes as well. In Sindh and Balochistan, the forestry

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[7] To this, it may be interesting to also analyse experience from 2002 when under Local Government Act 2002, forestry extension was devolved to District governments under the EDO (Agriculture).

departments are mainly dependent upon social media, website, print and electronic media to reach out to citizens, whereas the Punjab Forest Department relies mainly on project specific activities. For successful implementation of REDD+, the forest departments stressed the need for development of a comprehensive mass communication strategy to ensure meaningful engagements and role of civil society, forest owners, private sector, and local communities in forest management including restoration, conservation, and enhancement. The AJK Forest Department suggested a stronger and more incentivized communication system during the implementation of current REDD+ activities. Due to fear of public mistrust, GB suggested waiting till REDD+ pilot implementation shows results in terms of carbon trading. Although REDD+ implementation activities have gained momentum during the last few years, continuation of these activities as a regular function would require major structural changes in the existing conventional forest management systems.

Tables 4 and **5** summarise self-assessment on adoption of forest extension and outreach mechanism by the provincial forestry departments. Towards the end of 20th century, extension and outreach tools were used by the forestry departments at project level, mainly supported by bilateral and multilateral financial assistance.

Data in tables 4 and 5 shows that there is need for improving outreach mechanisms in all six provincial departments which will require improving both technical and human capacities within the forest departments. Existence of extension wings in KP, Sindh and Punjab Forest departments may facilitate this process while the rest of the three provincial departments may need structural adjustments to create extension wings. All the provinces need to agree on a meaningful definition of extension, conducts training need assessment and train staff on extension approaches and techniques. The GB has yet to establish a training facility for staff. The Forestry department of the Karakoram University could be a potential resource for training and development of extension material.

Table 4: Assessment of Extension & Outreach instruments used at Sub-national Level

Outreach Tools	KP	Punjab	Sindh	Balochistan	GB	AJK
Liaison with media	Yes	Yes	Yes	Yes	Yes	Yes
Use of social media	Yes	Yes	Yes	Yes	Limited to Facebook	Yes
Consultative meetings	Yes	Yes	Yes	No	Need based	Need based
Newsletter	Yes	Project based	Yes	No	No	No
Annual reports	Yes	Yes (not regular)	No	No	No	No
Public campaigns	Yes	Yes	Yes	Yes	Yes	Yes
Self-learning curricula	Yes	Yes	Project based	No	No	Project based
Websites / web portals	Yes	Yes	Yes	Yes	Yes	No

Source: Sub-national Forest Departments – 2021.

Table 5: Status of Forestry Extension Systems at Sub-national level

	KP	Punjab	Sindh	Balochistan	GB	AJK
Any specific extension definition adopted	x	x	x	x	x	x
Regular extension section/ wings[8]	✓	✓	✓	x	x	x
Regular Training Needs Assessment	✓	x	x	x	x	x
Regular training of extension staff.	✓	x	x	x	x	x
Training curricula available.	✓	x	✓	✓	x	✓
Training facility established.	✓	✓	✓	✓	x	✓

Source: Sub-national Forest Departments – 2021.

2.5.3 Forestry education, research and extension

Forestry education is essential to understand, acquire necessary specialization and achieve the objective of sustainable forest management. In the past the Pakistan Forest Institute (PFI) was the only forestry education, research, and training institution in the country. A number of other universities such as Faisalabad Agriculture University, Haripur University, Karakoram University etc. currently award BSc and MSc degrees in forest sciences. Since 1961, Faisalabad Agriculture University has a Department of Forestry and Range Management, offering degree courses since 1977. It is a well-established department and also offers courses on Agro-Forestry whereas other universities are more recent (box 3).

PFI is affiliated with the University of Peshawar since 1958. Before 2011, PFI was administratively attached with the Federal Government. After the 18th amendment in the Constitution of Pakistan which resulted in devolution of powers and resources, PFI was devolved to Forestry, Environment and Wildlife Department, KP with effect from July 2011. Even after devolution, the institute continues to cater for the whole country.

Box 3: Forestry Training & Education Institutions of Pakistan

The respondents of this assessment argue that PFI has not kept pace with the changing needs of the forestry sector. They also suggest that most of the sub-national forest training schools run by the forestry departments have inadequate facilities. The curricula of these training centers also need to be upgraded on urgent basis. The list of forestry institutions is as follows:

- Community Training Centers (CTCs), Dera Ismail Khan, Swat, Abbottabad.
- Forest Training School, Thai – Abbottabad (KP)
- Punjab Forest Research Institute, Gatwala – Faisalabad
- Punjab Forest Academy, Ghora Gali - Rawalpindi
- Forest Training School, Bahawalpur (Punjab)
- Forest Training School, Cheena – Ziarat (Balochistan)
- AJK Forest School Muzaffarabad, (New curricula developed but not yet introduced.)
- Miani Forest School, Hyderabad (Sindh)
- Universities: (Seven Universities including Faisalabad Agriculture University, Arid Agriculture University Rawalpindi, Karakorum International University, Allama Iqbal Open University, Islamabad, Hazara University)

The existing curricula of forestry education in the country pays, however, limited attention to forestry extension and are not well aligned to the larger demand of new sectoral policies, emerging forestry concepts, private sector needs, and forest dependent communities. The training at PFI or other institutes is not designed to train foresters with extension skills. Well-

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[8] In case of Sindh, Social Forestry wing headed by a Chief Conservator

trained forest extension agents are vital to address real problems confronted by the forestry sector together with forest dependent communities and the public at large. The curricula require to cover new areas such as forestry extension, climate change (REDD+), forest biodiversity, sustainable forest management, trees outside forests, agroforestry, farm forestry, NTFP's, joint forest management, ecotourism. The forest education should include subjects (e.g., participatory management of forestry resources) other than the traditional subjects. Forestry education needs to be fed with latest research findings on sustainable forest management. Similarly, forestry extension needs strong linkages with research institutions to tackle issues and problems in forest management. Currently, Pakistan does not have adequate facilities and capacity (with the exception of PFI and PFRI) to conduct research on forest subjects especially on issues related to various forest ecozones. To build capacity of existing institution, collaboration with international research institutions is suggested.

Improved coordination between forestry extension, education and research may provide access to new knowledge and technologies that can be used for sustainable management of natural resources. Also, this connectivity can inspire research and education to become more demand based and practical. At the moment, this mutual collaboration among relevant institutions is relatively weak.

2.6 Organizational Structure, roles and responsibilities

2.6.1 OIGF and Ministry of Climate Change

Forestry governance in the Indo Pak sub-continent has a long history. Sir Dietrich Brandis was appointed as the first Inspector General of Forests (IGF) in pre-partition British India in 1864 (Khattak, 1976). An important objective for creation of forest services by the British rulers was to manage forests for continued provision of large-sized timber for railways and other public works, and fuel for railways and river steamers. For this purpose, the forests were taken under the government control,

After independence, the Office of the IGF (OIGF) was attached with the Ministry of Food and Agriculture. Later, the OIGF was transferred to the Ministry of Environment (MOE) as its technical wing. After abolition of MOE, a new ministry with the name of Ministry of Climate Change (MoCC) was created at federal level and OIGF was placed under it. The OIGF has 10 sanctioned staff positions (**Table 6).** However, currently the post of IGF, one post of each DIGF, AIGF, Conservator Wildlife, and Deputy Conservator Wildlife are lying vacant.

Table 6: Sanctioned staff positions in Office of the IGF

Position	Number	Filled or vacant
Inspector General of Forests (BS-21)	1	Vacant
Deputy Inspector General Forests (BS-19)	2	1 filled, 1 vacant
Conservator Wildlife (BS-19)	1	Vacant
Director Biodiversity (BS-19)	1	Filled
Assistant Inspector General Forests (BS-18)	1	Vacant
Deputy Conservator Wildlife (BS-18)	2	1 vacant
Deputy Director Biodiversity (BS-18)	1	Filled
Assistant Secretary-Wildlife (BS-17)	1	Filled
Total	**10**	**5 filled, 5 vacant**

2.6.1.1 Mandate of OIGF
The OIGF is a lead federal office to coordinate forestry affairs in the country and deal with relevant multilateral agreements. In accordance with the Rules of Business (Amended) on 16th August 2012, the OIGF is mandated to formulate national policies on forestry, wildlife, biodiversity, and develop strategies and plans, and to facilitate inter-provincial and inter-

ministerial coordination on different forestry matters. Further details of the OIGF functions are given in **Annex V.**

The role of OIGF is to support sub-national forest entities for meeting international obligations under the conventions and agreements through national-level actions with close cooperation of all provinces and AJK regarding sustainable development of forests, climate change mitigation, biodiversity, wildlife conservation and CITES related trade regulation, and to combat desertification. The OIGF also serves as National Focal Point for REDD+ related planning and capacity building processes.

The MoCC through the OIGF is pursuing to enhance the financial portfolio of sub-national forestry departments and allied institutions, so that they improve their capacity to meet emerging challenges to the sector, such as climate change, loss of forest biodiversity, transition from traditional forestry management to sustainable resource management at landscape and ecosystem level. The OIGF also facilitates sub national partners in the following:

a) Ensure sufficient PSDP allocation for sub-national forest departments through development projects (e.g., Ten Billion Trees Tsunami Programme).
b) Mobilize international funds from multilateral and bilateral sources (e.g., GEF funded SFM project).
c) Facilitate results-based payments under REDD+ (e.g., World Bank funded REDD+ Readiness Programme).

The OIGF also helps explore new financial avenues for fund access from international and national donors to help in closing the gap in available finances for forestry and biodiversity conservation. In addition, OIGF is also facilitating sub-national forestry staff in capacity building through participation in regional and international meetings, training sessions and exposure visits to enhance their technical capabilities and to equip them to meet international obligations and emerging challenges and opportunities in the forestry sector.

One serious issue is absence of a national forest monitoring mechanism. Uniform standards for forest monitoring and reputed institutions to improve monitoring skills of sub-national entities in line with best international practices were missing. To meet these challenges a national forest monitoring system and harmonised standards for forest monitoring have been established under the REDD+ project. The forestry departments have been trained and equipped through provision of forest monitoring equipment including remote sensing drones for real time forest monitoring.

The OIGF acts as National REDD+ Focal Point and leads international negotiations on the subject as national entity. The MoCC has established a National REDD+ Office, National Steering Committee on REDD+ to coordinate REDD+ implementation. The MoCC puts emphasis on a broad-based consultative and participatory process in view of international best practices at different levels.

Feedback on the role of OIGF on REDD+ implementation in Pakistan in the provinces was generally positive. Sindh recognised OIGF's contribution as good, while Punjab identified lacking leadership, Balochistan suggested improvement to ensure better flow of information between the province and the OIGF. Communication between federal and sub-national forest entities on negotiations for REDD+ and other international obligations was not considered optimal. AJK, KP and GB forest departments termed communication to be reasonably good but stressed the need for further improvement especially on taking the provincial departments on board before making international agreements. Sindh and Punjab expressed the need for more transparent communication whereas Balochistan suggested direct negotiation with international actors interested in investing on REDD+ in the province.

National institutions have been established at different levels for REDD+ implementation including legislative planning, national direction and policy formulation, national coordination and international reporting, management and technical oversight (Box 4).

Box 4: Organogram of the National REDD+ Institutions and Decision-Making Bodies

Ministry of Climate Change	Legislative Planning Public service
National Steering Committee on REDD+	National Direction, Steering Policy Formulation and Guidance, Multi-sectoral Coordination
Office of the Inspector General Forests (National Focal Point for REDD+)	National coordination International reporting
National REDD+ Office	Coordination and Management, Technical Oversight and Direction
Working Group - IV · **Working Group - III** · **Working Group - II** · **Working Group - I**	Technical input

Institutional mechanism for implementation of REDD+ activities has been established in all the sub national units **(Table 7).** These mechanisms however are being supported through funding of projects rather than being a permanent structure.

Table 7: Analysis of existing Arrangements to Implement REDD+ Activities in Pakistan

National & Sub-national Entities	REDD+ Focal Points Designated	National & Sub-national REDD+ NSC & PRMC's established	Remarks (Gaps/ Recommendations)
Office of the IGF	✓	✓	Under the revised Rules of Business 2012, Federal Government through OIGF is mandated to perform functions of national coordination, and implementation of international agreements pertaining to forestry and wildlife sectors.
Punjab	✓	✓	Need to ensure sustainable resource development in collaboration with all relevant stakeholders.
Sindh	✓	✓	Require strengthening of intersectoral coordination through strong collaboration with agriculture, livestock, water, land revenue, finance, P&DD departments.
Khyber Pakhtunkhwa	✓	✓	Composition of existing PRMC needs revision with the inclusion of mining, industry, tourism, agriculture, revenue departments/ sectors.
Balochistan	✓	✓	Need for a strong coordination mechanism with agriculture, livestock, Irrigation, land revenue, finance, mining, oil & gas sectors.
Gilgit-Baltistan	✓	✓	Require regular positions to own REDD+ as regular function.
AJK	✓	✓	Adopt integrated approach.

2.6.1.2   Federal Forestry Board

The federal government had constituted the Central Forestry Board in 1974 for coordinating provincial and federal institutions. The Board however, never performed actively and met only twice in 44 years. With changing national and international scenarios and needs the Board was reactivated in 2018 with new composition and fresh mandate to review and guide forestry sector progress and emerging challenges. In year 2000, the board was renamed as the Federal Forestry Board (FEB). The Board has multi-sectoral membership comprising federal line ministries including MoCC. The notification of the FFB is placed at **Annex VI.**

2.6.2   Forestry Administration at Sub-national Level

Sub-national Forest Departments manage forests under different tenurial arrangements and exercise legal authority in their respective areas. The administrative chain of hierarchy of sub-national level departments is given in **Figure 1**.

Secretary Forests

⬇

Chief Conservator of Forests

⬇

Conservator Forests

⬇

Divisional Forest Officer

⬇

Sub-Divisional Forest Officer

⬇

Forest Rangers

⬇

Forester

⬇

Forest Guard

Figure 1: Main chain of forestry administration in Provinces

In general, the technical forest governance system at provincial levels works under the supervision of Chief Conservator of Forests (CCFs). The planning and monitoring sections along with Conservator of Forests (CFs) directly report to the CCF. The CFs head the respective Working Circles and is responsible for implementation of operational policies. They are supported by technical staff comprised of Divisional Forest Officers (DFOs), Range Forest Officers (RFOs), Foresters/ Forest Rangers and Forest Guards.

Interestingly, the hierarchy has not changed much over the last 70 years except horizontal expansion which resulted in appointment of more than one CCFs as opposed to one CCF in five provinces in the past, as technical head of the provincial forest departments. One of the CCFs is placed as Principal CCF and the rest head allied sub departments. In GB the post of CF as head of forest department has been elevated to CCF resulting in appointment of 4 CFs in addition to Directors of National Parks. In all the sub-national entities, Secretary of Forest is administrative head the forest departments.

In KP only, a major change took place in 2002 when the new Forest Ordinance (which replaced Forest Act 1927) resulted in changing the liner structure to matrix structure. As a result, in

addition to the territorial hierarchical set up (CCF-CFs-DFOs), Integrated Specialized Units (ISUs) headed by Directors (Conservators appointed as Director of ISUs) were created. The ISUs included Directorates of (i) Human Resource Development (HRD), (ii) Community Development, Extension, Gender and Development (CDEGAD) (iii) Non-Timber Forest Products and Research (NTFPR), and (iv) Forest Management / Monitoring Centre (FMC). Despite a matrix management system, there seems a disconnect between the CDEGAD and the territorial staff. In Punjab a Forest Extension Wing has been created recently, headed by CCF Extension and Research. The other staff in the hierarchy is three CFs (Extension), eight DFO's (Ext.) and a SDFO for each district working as extension officer.

The Forest Departments of sub-national entities mainly function in relation to the state-controlled forestlands. They are neither mandated nor have the capacity to support forest management outside their domain. Besides, they have limitations in effective sustainable management and law enforcement due to shortage of manpower and political pressures. Interestingly the scope for increase in tree cover to meet the growing demand for wood rests mainly with private lands particularly on farmlands/ agroforestry or on arid lands in addition to supplies from the state-controlled lands. The broadening of the geographical scope of work of provincial forest departments will need a legal framework, policies, organizational development, additional human and financial resources and developing social and technical knowledge to deal with the communities and managing forests on lands outside the government owned forests.

2.7   Human and financial capacities

2.7.1   Human Capacities

The forestry sector assessment with respect of human resources covers sanctioned and shortage of manpower, current capacities, and gaps to fill for smooth sailing.

Statistics collected from sub-national forest entities and OIGF indicate that the total sanctioned regular posts available with forestry departments are 19,990. The human resource currently in place is 15,639 and 4,343 posts are vacant (almost 28%). None of the provinces has all staff positions filled. KP, Sindh and AJK are generally well staffed, yet with few positions lying vacant. Punjab, Balochistan and GB have deficiencies by 24%, 37% and 54%, respectively. At federal level OIGF is lacking 44% of its sanctioned staff (**Table 8**). Understaffing is considered one of the reasons for ineffective functioning of the departments.

Table 8: Details of manpower available with Sub-national Forest Departments and OIGF

Name of Sub-National Entity.	Forestry Professional & Other Officers (BPS 16 & above)		Field Staff (BPS 15 and below)		Administrative Support Staff		Manpower sanctioned	Manpower in place	Shortage of manpower
	Filled	Vacant	Filled	Vacant	Filled	Vacant			
OIGF	5	5	0	0	10	7	27	15	12
KP	207	89	2163	367	1255	87	4168	3625	543
Punjab	366	197	3306	976	1659	525	7029	5331	1698
Sindh	175	75	978	66	750	100	2152	1903	241
Balochistan	191	117	961	549	829	518	3165	1981	1184
GB	64	47	504	271	135	64	1085	703	382
AJK	206	42	912	79	963	162	2364	2081	283
Total	**1214**	**572**	**8824**	**2308**	**5601**	**1463**	**19990**	**15639**	**4343**

Source: Provincial & AJK Forest Departments – 2021

2.7.1.1 Staffing comparison within the provinces

An analysis of the number of sanctioned positions and the positions filled **(Figure 2)** suggests the highest staffing has been observed in Punjab which is the largest province in terms of its population. This is followed by KP, the province with the largest proportion of the total national forest resources. Balochistan is the third highest organization by manpower despite only 7% forest resources under the direct departmental control. However, this may be due to a vast landscape where long distances are involved from one district to the other. AJK stands fourth, despite that the territory is relatively small in area even though with rich forest resources. Sindh comes next and the GB's forest organization is the smallest in size.
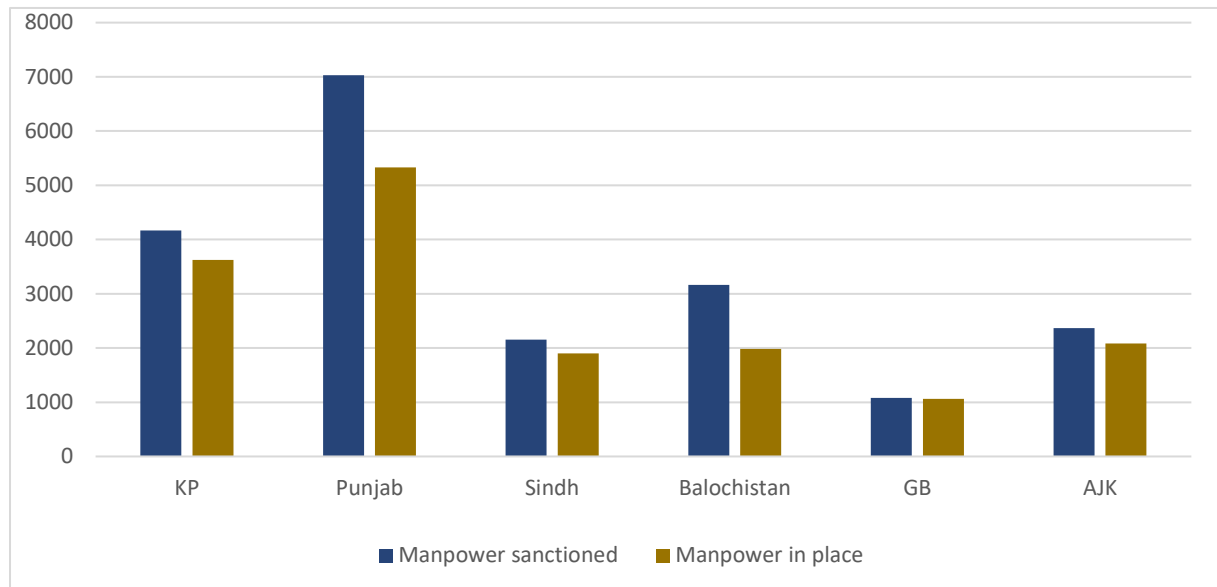
Figure 2: Manpower in place against sanctioned positions in sub national Forest departments

2.7.1.2 Workforce analysis with respect to the positions

This analysis has been made to figure out where is the larger weight of the organization at sub national level.

In total of the actual filled positions, 35% is administrative support staff and 5% technical staff in the organization across Pakistan. Analyzing the filled positions in more detail it becomes clear that between 9% and 10% of the staff belongs to the senior management category (BPS 16 and above) in Sindh, Balochistan, GB and AJK, whereas in KP and Punjab these percentages are 6% and 7% respectively (**Figure 3**). The majority of filled positions belong to the category of field staff. In GB 72% of the staff belongs to this category. KP and Punjab have comparatively similar percentages of 60% and 62% respectively. In Sindh just above half of the workforce belongs to this category, and the proportion of field staff in Balochistan and AJK is below 50%. GB has the lowest number of support staff (19%), in the other provinces the proportion of support staff ranges between 31% and 46%. It may be concluded that from organizational point of view that KP and Punjab Forest Departments have a more balanced workforce of filled positions in terms of the proportions of senior management staff, field staff and support staff.

2.7.1.3 Analysis by diversity of competences

The change process discussed in the sub-national departments warrants that the sub-national departments create spaces for specialized positions at senior level, having educational backgrounds other than the traditional forestry. Examples may include addition of graduates with GIS, monitoring, forestry extension and community participation backgrounds at the senior levels. This diversity is far from achieved. Even where inducted, such staff with non-traditional forestry backgrounds are not promoted to senior positions and they report to RFOs, DFO and others (for instance community development officers and GIS experts in KP). The departments, therefore, are not an attractive place for highly specialized experts when there is no chance for vertical career progression and they will remain in support functions. In an institutional environment with limited career opportunities, such positions will only remain project positions and staff turnover will be higher in such cadres. There is a need to either create full-fledged organizational units with sanctioned senior technical and management positions open to non-forestry professionals, or to source out these functions on a permanent basis to specialized organizations staffed with professionals providing these services and having their own career
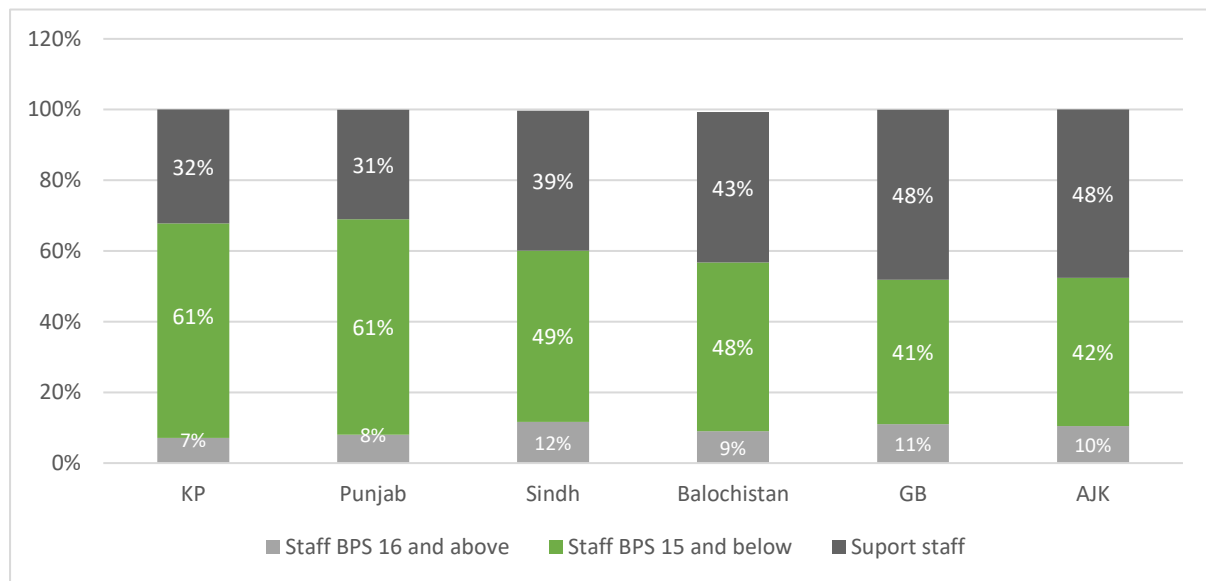
Figure 3: Analysis of human resources by staff categories

perspectives.

Human resource development has been directly linked to productivity and long-term career growth of employees. It is also important to engage core departmental professional staff into challenging tasks with motivation. This is because most talented and highly qualified professionals leave the department knowing that they will not progress in their career.

The disaggregated details on staff dedicated to extension tasks are not available. There are two issues associated with this analysis:

1. Only in Punjab and KP, there are designated wings responsible for extension services and with clear TORs for responsibilities.
2. In general, however, the provinces (particularly the remaining 4 with no extension wings) consider junior staff (RFOs, Foresters and Guards) responsible for extension.

This forestry hierarchy in place since centuries can only serve a different role if term of reference is changed (from conservation, controlling and catching forest offenders to community mobilisers, trainers and institution builders). Currently only 1% of forest department staff is engaged in extension and outreach activities. These tasks are generally not included in the job descriptions of territorial field staff, neither part of the ACR of staff.

2.7.1.4 Targeted capacity building

The staff, especially the middle cadre, is frustrated with limited or no opportunities for their training and capacity building. They stated that most of the training and knowledge exposure opportunities are availed by senior staff of the provinces and OIGF. The forest departments need to be equipped with new tools of sustainable forest management including participatory forestry management, agroforestry, and techniques for conflict resolution as well as market research. Further, capacity improvement in the area of extension will enable them in developing and implementing a strategy to work with communities and other stakeholders. In this regard a targeted capacity building programme may be developed. The on-going capacity building activities at Pakistan Forest Institute and provincial forestry education and training facilities need to be transformed as per present days requirements. As far as REDD+ is concerned, Pakistan has conducted several capacity building sessions and organized training workshops since 2009 to develop capacities of sub-national forest departments and other stakeholders (NGOs, community members, forestry right holders, etc.) Capacity building activities under REDD+ included (i) engaging international experts in conduct of several REDD+ related technical studies; (ii) local and international trainings, and (iii) participation in REDD+ dialogues and negotiations under UNFCCC and other forums.

The trainings included two international courses on Satellite Land Monitoring System (SLMS) and National Forest Inventory (NFI) in Finland, two national Trainings of Trainers (ToT) on Safeguard Information System (SIS) and eight provincial level training/ consultative workshops on Payment for Ecosystem Services (PES). In total, 546 participants were trained, of which, 443 were male and 103 were female participants. The Master Trainers afterward conducted further trainings and enhanced the technical supervision capacity at national and provincial level. The members of technical working groups also provide technical inputs on REDD+ relevant technical aspects based on their technical expertise and experience from the field. However, majority of such capacity building activities are project specific, and not yet institutionalized on permanent basis. Also, transfers of staff make it difficult to retain trained officials on the same positions.

The REDD+ mechanism is a complex instrument, where continuous capacity building sessions and trainings are required for policy makers, forestry resource managers, dependent communities, and relevant field staff. The following are some of the potential areas identified by sub national actors for building capacity of the departments:
- Complete know how about decisions and guidelines of UNFCCC and its relevant subsidiary bodies.
- National and international policy context on REDD+.
- Mediation skills to manage forest conflict (uses, rights, decision-making)
- Different methodologies used for REDD+ inventory preparations and forest carbon accounting. Human and technical (knowledge and skills) capacities of relevant national and provincial officials in Satellite Land Monitoring System (SLMS) National Forest Inventory (NFI) and Green House Gas (GHG) inventory.
- Inclusion of women and small and medium enterprises.
- Communication strategy of REDD+ and its related components of forestry extension services.

2.7.2 Financial Capacities

The World Economic Forum has estimated that more than half of the world's gross domestic product (GDP) is moderately or highly dependent on natural ecosystem services. For investors and governments, the loss of forest biodiversity has significant economic consequences that should be recognized in national accounting systems and corporate book-keeping.

Historically, in Pakistan forestry sector attains low priority and receive meager budget allocation for its operations. However, in recent years, it has been observed that both federal as well as sub-national governments recognized the importance of forestry sector. Like other sectors, the financial flow in forestry sector is also divided into non-development and development budgets. The development budgets of the provinces are called Annual Development Programme (ADP),

while that of the Federal Government is called the Public Sector Development Programme (PSDP). Despite severe financial constraints there is a progressive trend in financial allocations to the forestry sector in Pakistan under PSDP and ADP.

2.7.2.1 Non-Development Finances

In each annual budget, funds for routine departmental expenditure including establishment charges, transportation, and covering regular maintenance and operational costs allocated by the concerned sub-national governments show an increasing trend due to overall inflation and related increases in cost of human resources and administrative costs (**Table 9**). Given Pakistan's extremely tight fiscal space, it is very difficult to sufficiently augment non-development sectoral budgets, which certainly need to be increased for strengthening of sub-national forest departments, for example regarding improved monitoring, reporting and community participation.

Table 9: Non-Development Budget Allocation - sub-national Forest Departments (2010-2021)

Financial Years	Punjab	Sindh	KP	Balochistan	GB	AJK	Total Non-Development
2010-11	1,029.40	820	769.989	376.5	190.465	426.507	**3,612.86**
2011-12	1,128.65	820	853.03	618.027	190.465	522.762	**4,132.93**
2012-13	1,419.72	900	1014.927	597.791	417.0845	577.982	**4,927.50**
2013-14	1,734.58	920	110.895	686.352	235.677	619.929	**4,307.44**
2014-15	1,925.42	1010	1245.902	1,157	305.293	670.453	**6,314.07**
2015-16	1,941.41	1120	1245.902	832.819	331.336	705.356	**6,176.82**
2016-17	2,089.53	1200	1395.752	894.352	363.686	761.627	**6,704.94**
2017-18	2,259.85	1350	1531.55	1,015.08	457.114	873.747	**7,487.34**
2018-19	2,981.22	1500	2204.45	1,096.76	458.208	1,009.48	**9,250.12**
2019-20	3,348.99	1650	2682	1,421.11	625.785	1,008.43	**10,736.32**
2020-21	3683.89	1800	2950	1563.22	658.498	1156.825	**11,812.43**

Source: Sub national Forest departments – 2021

2.7.2.2 Development Budget

The forestry sector like any other sector needs long term financial commitments and timely availability of finances with proper planning. However, the forestry sector generally has received low priority in financial allocations. Also, access to donor funding is limited because of capacity issues and complex procedures. Further, resources from development partners are mainly available for soft interventions such as capacity building, exposure visits, planning and monitoring related documentation.

Flow of finances on sustainable basis and its judicious and fair utilization is another big challenge. Provinces normally allocate finances for forestry development operations mainly from ADPs. The Federal Government also supplements and provides some resources under its PSDP initiatives. The TBTTP is a new combined initiative of Federal as well as sub-national governments to enhance the forest and tree cover of the country.

The development budget in the forestry sector is used to fund the implementation of different conservation and management activities which are normally not covered under the non-development budget. The procedure outlined for the demand of development funds are through project documents called PC-I. Allocation of development budget in the provinces during 2010-2021 is given in **Table 10.**

Table 10: Development Budget Allocation-sub-national Forest Departments (2010-2021)

Financial Years	Punjab	Sindh	KP	Balochistan	GB	AJK	Total Development
2010-11	548.27	463	243.117	5	43	171.798	1474.185
2011-12	541.389	463	241.992	20	43	247	1556.381
2012-13	349.059	610	255.464	18.103	82.742	267	1582.368
2013-14	331.567	847	297.196	63.173	85.777	295	1919.713
2014-15	309.398	700	881.366	122	155.325	305	2473.089
2015-16	326.501	650	3733.553	138.258	214.531	320	5382.843
2016-17	787.047	850	1781.955	120.924	243.025	376.5	4159.451
2017-18	793.61	760	2785.414	394.529	231.563	550	5515.116
2018-19	1,614.19	692	1650.99	364.253	223.802	496.757	5041.988
2019-20	808.096	750	4865.609	1,231.60	188.619	425.569	8269.494
2020-21	808.96	635	2772.59	1231	84.247	350	7974.816

Source: Sub national Forest departments – 2021

Coinciding with the approval of National Forest Policy 2015, investment in the forestry sector has improved. However, due to severe resource constraints in an economy in transition, the actual allocation of required financial support is still far away from the desired level, and development investments are slowly decreasing again. The aggregate data on development and non-development budgets suggests that the non-development budget is larger than the development budget and is consistently increasing (57% from FY 2010-11 to FY 2020-21). Development budget is also increasing with a few ups and downs (166% from FY2010-11 to 2020-21) discounting inflation **(Figure 4)**.
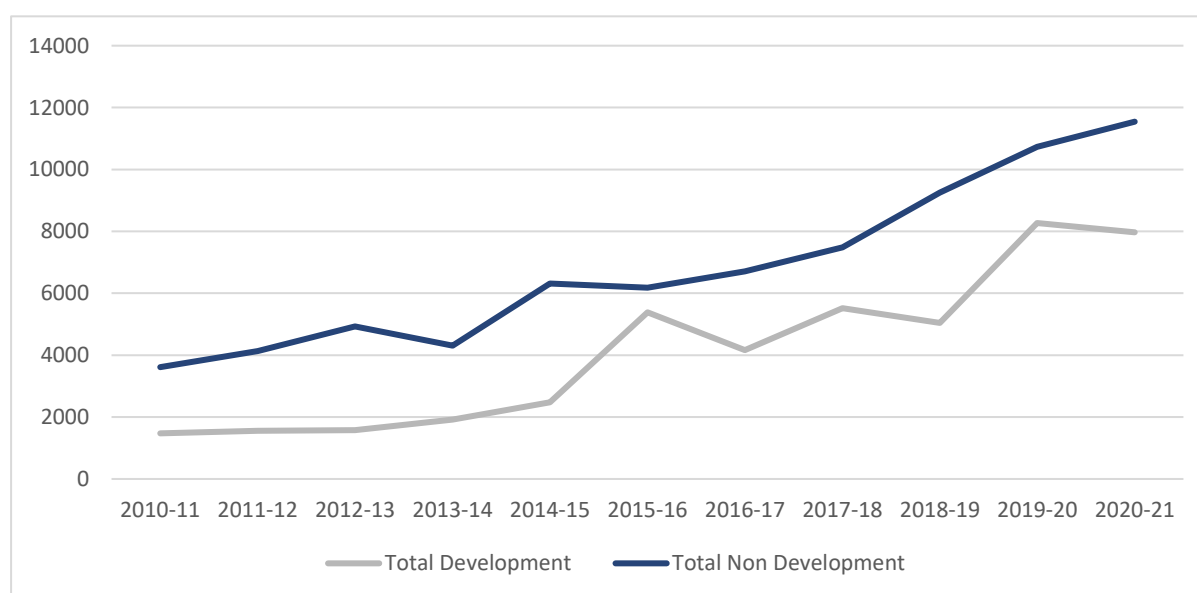
Figure 4: Trend analysis-Sub National Development & Non-Development Budgets 2010-2021 (mio PKR)

The PSDP and ADP funding is mainly used for afforestation programmes at national and sub-national level aimed at avoiding the negative impact of climate change and improving the status of biodiversity conservation. The current examples under implementation are the Ten Billion Trees Tsunami Programme (TBTTP) and Mangrove restoration project. The TBTTP is expected to receive US$800 million of own Pakistani contribution for the coming ten years according to

NDC 2021. A matter of concern, however, is that the actual funds received by the departments from the treasury for development expenses is lower than the allocation with an average of 20% reduced sanction.

2.7.2.3   Sub national analysis

All the provinces suggested that the budget needs enhancement to perform development works as well as administrative and protection functions.

Punjab: Punjab has the highest non development budget in the country. The province had a relatively sharp increase in non-development budgets from FY2010-11 to 2020-21 (258%). Development budgets have been declining from FY 2011-12 to 2015-16 and then slightly increasing. A total increase of development budget in Punjab was 48% for the same financial years (**Figure 5**).

Figure 5: Trend analysis-Punjab Development & Non-Development Budgets 2010-2021 (mio PRK)

- **Sindh's** non development budget is consistently increasing, especially since FY 2014-15 (net increase 120%). The development budgets increased from FY 2010-11 to 2019-2020 and then a dip was noted in FY2020-21 whereas the non-development budget experienced a sharp increase. Sindh also reported that the average released budget is usually 20% less than committed every year (**Figure 6**).
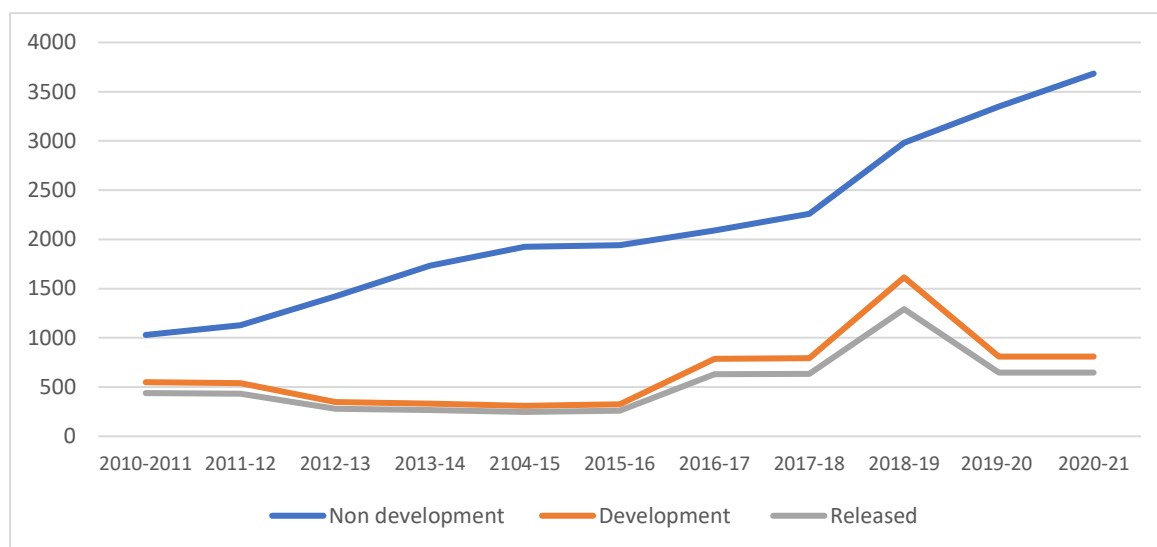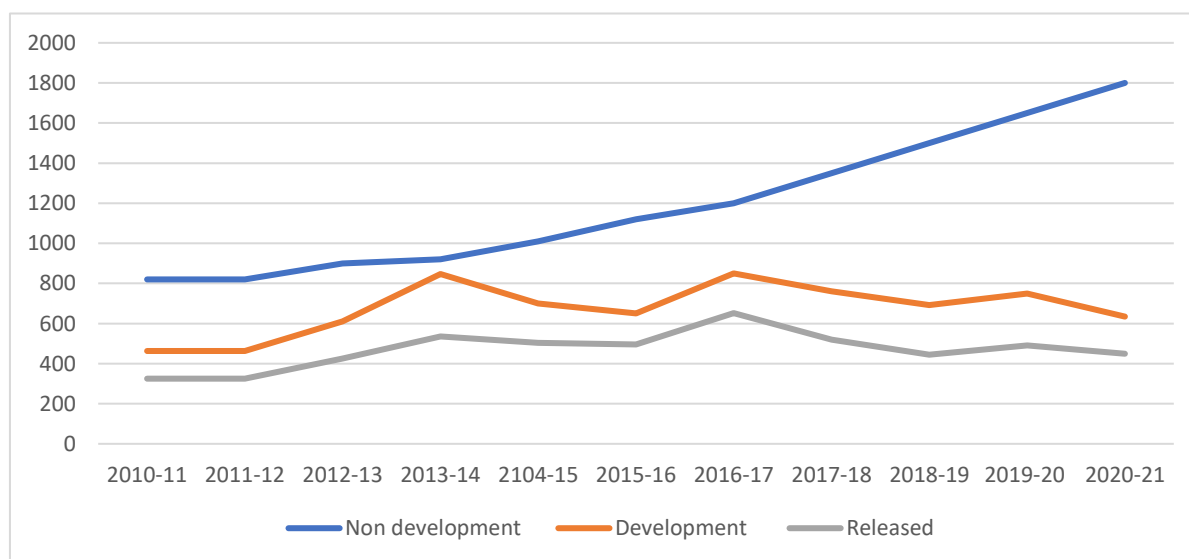

Figure 6: Trend analysis–Sindh Development & Non-Development Budgets 2010-2021 (mio PKR)

KP: KP's non development budget is consistently increasing, especially since FY 2017-18 with a total increase of 248% from FY2010-11 to 2020-21. KP's development funds are fluctuating over the years since FY2010-11, with a generally increasing trend (**Figure 7**). The FY2020-21 development budget is more than 10-fold the FY2010-11 development budget (not discounting inflation). In absolute terms, the KP development budget is responsible for more than one third of the country's forestry sector development budget in FY 2020-21. KP even had higher development budgets, responsible for more than 50% of the country's forestry sector development budget, in the FY 2015-16 and FY 2019-20. This coincided with major afforestation programmes such as Billion Tree Afforestation Project (BTAP) and Ten Billion Trees Tsunami Programme (TBTTP).
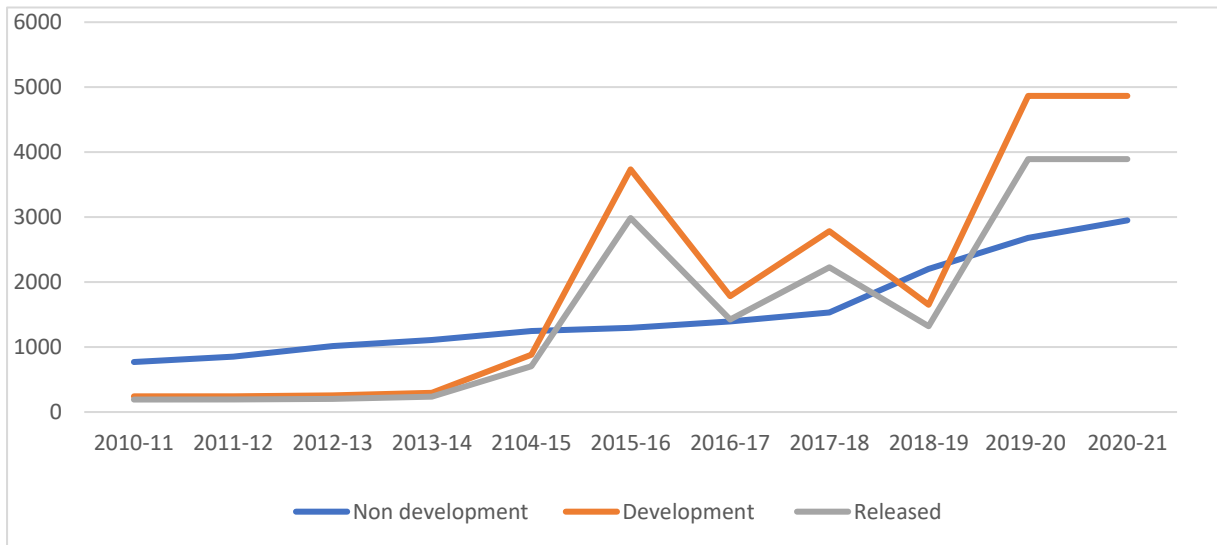
Figure 7: Trend analysis–KP Development & Non-Development Budgets 2010-2021 million PKR

Balochistan: Balochistan has the lowest budgetary allocation both in development and non-development areas. Non development budget has been consistently increasing with an overall increase of 315%. The development budget shows a sharp jump from 2010 to 2021 (PKR 5 million to PKR 1231 million, which is the highest after KP), especially with a good increase from 2017-2018 (**Figure 8**).
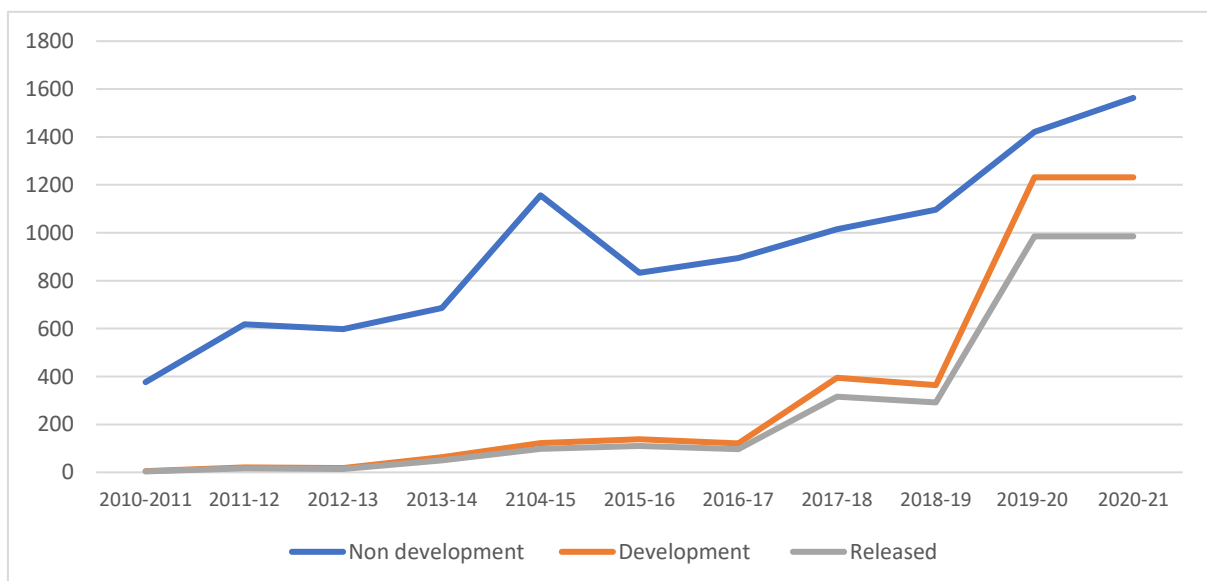
Figure 8: Trend Analysis-Balochistan Development & Non-Development Budgets 2010-2021 (mio PKR)

AJK: AJK analysis shows a consistent increase in non-development budget (overall increase of 171%). The trend for development budget is highly encouraging with an increase of 104% (due to Flood Emergency Reconstruction Project financed by ADB and TBTTP) which was a sudden high jump in FY 2019-20, and a then a decline (**Figure 9**).

Figure 9: Trend Analysis-AJK Development & Non-Development Budgets 2010-2021 (mio PKR)

GB: GB also sees a sharp increase in the non-development budgetary allocations (246%). Development budgets have increased with a relatively less sharp trend (overall increase by 96%) and are declining since 2020 (**Figure 10**).
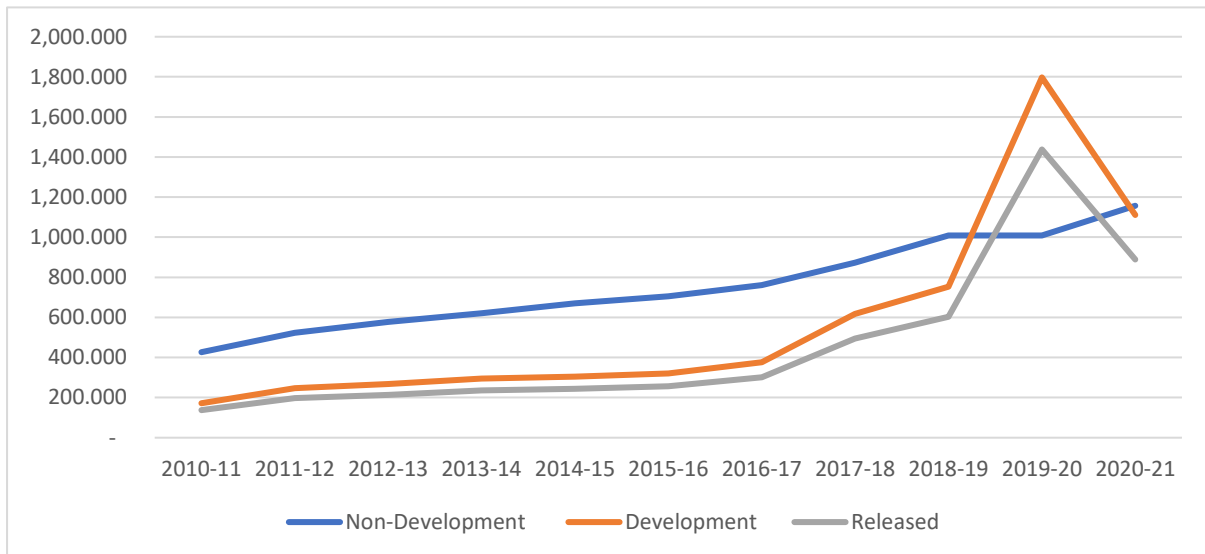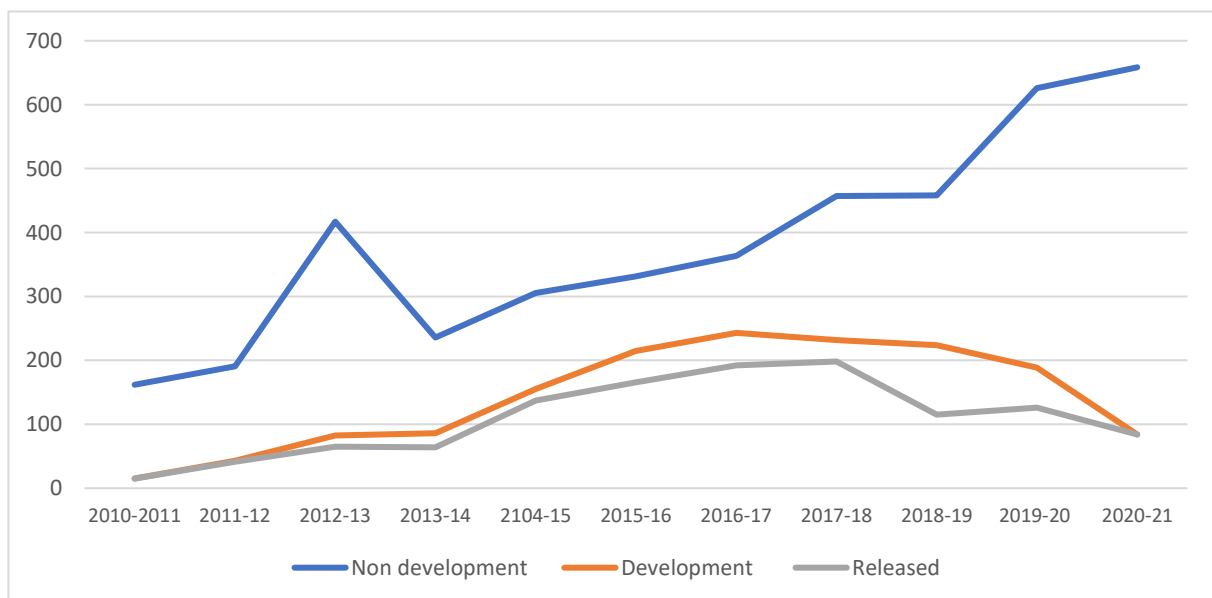

Figure 10: Trend Analysis–GB Development & Non-Development Budgets 2010-2021 (mio PKR)

3 GAP ANALYSIS IN FOREST MANAGEMENT, STRATEGIES, EXTENSION SYSTEMS AND CAPACITIES

This chapter presents an overview of the gaps identified in technical forest management, strategies, extension systems and organizational capacities described earlier.

3.1 Legal context of forests and forest management

The legal framework for forest management in Pakistan is defined within the provinces as forest management is a provincial subject under the Constitution. Main objectives of forest management include conservation and exploitation of the forests. The Acts pertaining to forest management generally date back to pre-independence period. Out of six sub national entities, AJK, KP and GB have their independent forest legislation. Punjab and Sindh are managing their forestry through the enforcement of Forest Act 1927, whereas in Balochistan, both Forest Regulation 1890 and Forest Act 1927 are enforced.

The new realities including climate change, loss of biodiversity, increasing emphasis on collaborative forest management and international obligation related to forest and wildlife conservation and climate change, require a fundamental review of legislation related to forest and wildlife the acts in all provinces, Important issues of the review include revisiting objectives of forest management that address collaborative forest management, benefit sharing with forest stakeholders including local communities and defining carbon rights, benefit sharing, and carbon trading.

3.2 Policies and policy implementation

In Pakistan forest policies are developed at two levels: federal and provincial level.

The National Forest Policy (NFP) 2015 provides a basis for the Federal Government to arrange and extend support to all provinces towards achieving their respective targets and meeting international obligations through capacity building and financial support. The policy framework outlines possible sources of financing through a) allocations through PSDP funding for Provincial afforestation programmes and projects, b) mobilization of international financial resources from multilateral and bilateral sources, and c) accessing possible results-based payments under REDD+. Although the NFP 2015 was formulated through stakeholder consultation, the ownership of the policy at sub-national level is relatively low. This is because of the perception that selected non-forestry actors working at the national level were engaged in policy formulation which resulted in incorporating a narrative more tilted towards international obligations than practical issues at the provincial level.

The provinces also regretted devolution of the Pakistan Forest Institute. A better approach would have been to retain PFI as a national institution while strengthening research capacities to cater to the needs of provinces.

Of all six sub-national entities three provinces, i.e., KP, Punjab and Sindh have approved forest policies. KP must revisit its policies in view of the merger of FATA with KP and emergence of new concepts particularly REDD+. AJK revised its draft forest policy (2014) in 2019. Balochistan and GB reported that their provincial forest policies are under preparation. Principles of sustainable/ collaborative/ participatory forest management have been incorporated in new policies. However, existing forestry legislations do not support these approaches. Revision of legislation to incorporate sections to address these approaches and remove sections that support top-down forest management practices is necessary. There should also be coherence among national and sub-national level forest polices to address local needs and realities and harmonising them across the different sectors.

3.3 Technical management of forests

Forest management systems being applied in provinces vary depending on the forest classification and rights/ ownership/ tenures regimes in the respective provinces. The management systems are developed based on the legal categories and vegetation types in line with the management objectives of the forest area. The forest management plans, the so-called working plans, are very much (timber) production oriented. This system continues despite the ban on cutting timber. Although these plans include some conservation aspects (mainly protection against harvesting by others) they lack an integrated approach of natural resource management for multiple objectives.

Since the imposition of ban on green felling in 1992, the forest management priorities have changed from traditional wood harvesting centric management to conservation. In the conventional system, the resource was mainly seen from the perspective of revenue generation. Under the changed dynamics forestry is seen as an important component of the natural ecosystem in which forest ecosystem services and biodiversity loss are placed on top of the natural resource conservation agenda.

Progressively, the role of forests in mitigating climate change is being realized by professionals and policy makers. All sub-national forest departments have started focusing on carbon sequestration and protective functions of forest ecosystems, instead of timber harvesting as their prime function. The challenge ahead is to integrate these notions in forest resource management plans.

In comparison with other allied sectors like wildlife and agriculture, adoption of new technology in the forestry sector at a very slow pace. Mostly forest management practices, such as nursery raising, planting techniques, monitoring systems, and irrigation methods are based on conventional patterns. The ongoing technological advances and their increased uses in the field of forestry provide opportunities and solutions to challenges, such as use of drones (unmanned aerial vehicles) and GIS for forestry planning and monitoring. At the same time these developments hint on issues regarding institutional capacity and competences within the forest departments to adopt these technological innovations. Increased access to these technologies may enable forestry departments to use them for better decision-making and forestry planning. The pace to adopt these new gadgets and techniques for technical and extension systems in the forestry institutions is slow. Application of GPS and GIS is taking root in the provinces especially in KP GB and Punjab. Balochistan and AJK have established GIS labs. Taking benefit of this technology however will need restructuring departments to recruit subject specialists at senior and junior levels. This has been highlighted in the relevant section on human resources. Just establishing labs and recruiting a GIS specialist never to be promoted to senior level will not solve the problem.

3.4 Forestry extension and outreach

Forestry extension, particularly those aspects related to engagement of communities and the private sector in forest management, is not mainstreamed in the operations of the sub-national forest departments. Extension is not seen as an integral part of the job descriptions of forestry staff. It is rather seen as an additional task. KP province has taken legal and structural steps to make it mandatory for the department to ensure participation. Community Participation Rules 2004 (including rules for Joint Forest Management) and a separate directorate for Community Development, Extension, Gender, and Development (CDEGAD) which largely caters for mainstreaming participatory approaches. Punjab recently created a forestry extension wing and Sindh has a separate social forestry wing. These initiatives are mostly targeted at increasing tree cover on farmlands and urban areas. Their focus on mainstreaming of participatory approaches in forest management is limited.

For extension and outreach various tools are being used including use of print and electronic media, social media, periodical consultative meetings, self-learning curricula to promote public

awareness. At national and sub-national levels an outreach plan focusing on the importance of forests and its role in climate change mitigation and biodiversity conservation and geared to a diverse group of stakeholders is lacking. However, a Strategic Communication Plan has been prepared under REDD+ project targeting awareness, outreach and capacity building of various stakeholders.

In view of REDD+, sub-national forestry departments lack or have limited dedicated and trained long-term extension staff and outreach strategies. Capacity gaps among staff (both including territorial and extension related staff) responsible for engaging with communities, private sector and other target groups are required to be addressed.

Virtually no linkages exist between forest research institutions and the implementing forest departments. Linkages with national and international institutions promoting participatory approaches are needed for capacity building of forestry staff. Further, the curricula of forestry education and research institutions need revision to accommodate the emerging needs of the forestry sector regarding climate change and forestry extension.

3.5 Organizational roles and responsibilities

At federal level the MoCC is responsible for national policy formulation and coordination. OIGF within MoCC has the mandate to support the sub-national entities for strengthening of their institutional capability and expertise with the assistance of national and international agencies or donor funded projects.

The sub-national forest departments are mainly responsible to manage, conserve and enhance forestry resources in the country for sustainable development. Other functions include management of watersheds to conserve soil and water, management of rangelands to boost production of forage and livestock; promotion of agroforestry and farm forestry on private lands, provide technical services, and training in various disciplines of forestry. State controlled forests are managed, protected, and conserved through a regulatory and punitive legislative framework. Public ownership and public participation in management of the forests is largely lacking for which the forest departments need to align legislation and develop additional skills and manpower. The role and responsibilities of the forest departments in communal and private (except guzara) forests is also important. The departments provide technical advice and develop management plans especially where commercial harvesting is carried out. For example, in GB the department charges 20% of the sale proceed as management cost of the private forests.

In addition, the national and international conservation organizations like IUCN, ICIMOD, Helvetas Intercooperation Pakistan, WWF-Pakistan, LEAD-Pakistan and SDPI provide support in policy dialogue, capacity building, and awareness raising at various levels.

Division of roles and responsibilities with respect to REDD+ between OIGF and the sub-national entities is not always clear. Representatives of the provincial departments suggested a stronger role in international consultations on REDD+ and international climate negotiations. Need of pre-discussion and internal preparations for international meetings through wider consultation and communication with the sub-national entities was also highlighted.

3.6 Coordination mechanisms

The organizational set-up and coordination mechanisms for REDD+ are well developed. However, they are dependent on a project set-up for financing.

Although forestry is a provincial subject since independence, the 18th Amendment to the Constitution in 2010 further devolved powers to the sub-national entities. National coordination necessary for information sharing and learning is not well organised. A centralized platform for collecting and analysing data using consistent methodologies has been developed under REDD+ project which needs further strengthening. Collating of data from all sun-national entities is important for national policy formulation, planning and international reporting.

3.7 Human and financial capacities

Human capacities
Sustainable forest management requires overall stability and competence of forestry sector institutions with sufficient and well-trained manpower, both with respect to technical knowledge and social and extension aspects. In terms of human resources, approximately 31% of the sanctioned posts were lying vacant in all the forestry institutions at national and provincial level. Especially Punjab, Sindh and Balochistan have many vacant posts. This lack of manpower reflects both budget constraints and a lack of political priority for the forestry sectorIn terms of quality, staff is lacking technical skills regarding assessment of carbon pools, drivers of deforestation and forest degradation; forest monitoring, and other skills regarding extension and stakeholder analysis, private sector engagement and benefit sharing especially with respect to carbon rights.

Only a limited number of staff has been assigned to extension related tasks or understand forestry extension methodologies. Strong linkages between forestry education, research and extension institutions are lacking, consequently forest extensionists have a limited menu of potential interventions to be employed at community level to counter the drivers of deforestation and forest degradation. Forestry education and research institutions have limited funds and facilities to link up with the REDD+ agenda and come with well-trained forestry professionals for new technical tasks and forest extensions.

Financial resources with forest institutions, particularly PFI, for capacity building and upgradation of curricula are scarce. PFI lacks upgraded curricula modern teaching aides and competent faculty necessary to impart quality education. Therefore, the institute is unable to produce manpower equipped with modern concepts to meet the demanding challenges of forestry sector in the country. A worrying factor is that PFI has lost its role as national institution for forestry education and research since it has been devolved at the provincial level. Training facilities in institutions where field staff are being trained (e.g., Forest Schools Ghora Gali Punjab and Muzaffarabad AJK) were also rated to be insufficient and was found poor. PFI, Faisalabad Agriculture University, Arid Agriculture University, Karakoram University, Allama Iqbal Open University, Haripur University and other institutions are offering four-year BSc and MSc programmes (see box 3 for an overview of educational institutions). These institutions need to diversify the specializations offered through curriculum development and enhance their technical capacities to deliver and meet the emerging needs of the forestry sector. A welcome development is that the Punjab Forest Department is strengthening the Forest Academy Ghora Gali established in 2017. The academy provides pre-service training to junior staff and pre-promotion training to senior officials as well as short training and trainings to communities.

Other reasons for institutional degradation are continued political interference in day-to-day affairs of departments, unnecessary favoritism (lack of transparency in transfer/ posting of staff), and lack of career planning of field staff.

Financial capacities
Overall, at national level, both development and non-development budgets are increasing consistently since 2010. However, the analysis shows that generally the forestry sector is under-resourced. Historically, in Pakistan, the forestry sector has received low investment and low priority. However, during the last ten years comparative data of financial allocations to the forestry sector indicated an increase. The launching of the flagship 1BTAP, BTAP, large scale mangroves restoration activities, implementation of donor funded REDD+, SFM, MFF and several other afforestation activities under ADP projects have led to the beginning of a policy shifts towards prioritizing the green agenda. The present situation may be termed as progressive increase in fund allocation. Private sector engagement is a potential opportunity to enhance investment in forestry sector through public-private partnership. To create space for private sector engagement in forest activities, particularly for investments in NTFPs development, carbon trading under REDD+ mechanism and promoting carbon neutral businesses will require

revision of existing sectoral policies and regulations. Exploration of innovative avenues for adequate investment in the forestry sector is certainly needed.

3.8 Analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT)

A SWOT exercises was conducted involving the forestry department officials from all the provinces and is presented in **Table 11**.

Table 11: SWOT analysis combined – sub national Forest departments

	Well-defined systems, frame conditions, basic technical know-how to sustainably manage resources	8
	Structured measures for participatory forest management available	3
	Monitoring systems strong (including tools and equipment)	3
Strengths	Ecological advantage with all eco-zones in the province	1
	Lack of capacity among staff on new concepts	5
	Participatory systems not institutionalised or internalised, or incoherent with technical forestry	4
	Departments' structure not fit for highly qualified non-traditional specialists (e.g., GIS)	4
	Lack of finances and regular funds	4
	Lack of internal and external coordination	4
	Lack of harmonised policy / outdated legal framework	3
	Lack of staffing on vacant positions	3
	Non-technical heads with frequent transfers causing inconsistency and lack of ownership	2
Weaknesses	Weak monitoring of forest resources	1
	Major national level programmes (afforestation, REDD+, sustainable forest management, NDRMF)	9
	Community is cooperative and ready to partner	3
	Huge tracts of lands available	2
	Potential for Public Private Partnership	2
Opportunities	Tourism potential, eco-tourism	2
	Inclining anthropogenic pressure on resources	9
	Lack of political will at sub national level and interference	6
	Conversion of forests to non-forestry land uses	4
	Forest departments still follow protectionist agenda	4
Threats	Increasing burden with day-to-day administration due to increased bureaucracy	2

Note: The numbers show the ranking by the stakeholders interviewed. Higher number shows a greater importance given by the participants to the issues.

Interestingly, Forest Department officials highly agree that the sub-national entities have well-defined systems and the necessary frame conditions and basic technical know-how to manage natural resources sustainably. On the other hand, they also identify the need to improve the capacity of staff in understanding and applying new concepts related to the emerging needs of the sector and new roles, and the need for organizational development regarding institutionalizing participatory forest management and non-traditional professions such as GIS. Major national level programs or initiatives such as REDD+ and TBTTP are seen as opportunities to tackle these issues. The fact that the forestry officials identify anthropogenic pressure on forestry resources as major threat indicates the need for collaborative forest management and the development of a strong forestry extension system.

4 STRATEGIES FOR IMPROVED GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

Based on SWOT and other analysis presented in the preceding chapters, the following strategic actions are suggested for improvement in technical and extension services:

1. Addressing policy gaps and legal framework.
2. Organization development and improvement of coordination.
3. Improvement of technical management, extension and outreach.
4. Improvement of financial and human capacities.
5. Improved forestry governance
6. Revision of forestry manual.

4.1 Addressing policy gaps and legal framework

Pakistan's forest policies and legal frameworks need to be updated at both national and sub national levels. Pakistan's National Forest Policy 2015 provides a broad framework for addressing issues of forestry sector and allied renewable natural resources and their sustainable management and development. The Policy gives broad guidelines to the Federal and Provincial Governments for ensuring the sustainable management of their forestry resources. The provinces also have provincial policies grounded in in local realities.

There is a need for:

i) Strengthening and harmonizing forestry policy and legal frameworks at national and sub-national level, especially in cases where these have remained unchanged since long. In many cases, stringent rules and regulations were formulated with a protectionist orientation which has instilled a controlling (rather than participatory) mindset in the institutions. This is also inconsistent with REDD+ intent to assure multi-stakeholder participation.

ii) Alignment among sectoral policies, such as tourism, mining, agriculture and water with the National Forest Policy is needed to promote sustainable forest management policies. Integration of forest policy with other sectoral development policies and programmes requires improved coordination, communication, and exchange among departments at planning, and programming stages to avoid conflicts with sustainable forest management and ensure do no harm and effectiveness on ground. The process of alignment may support ownership for sustainable forest management with other sectoral policy making bodies.

iii) Strengthening institutional capacities for preparation of forest policies relevant to climate mitigation and adaptation and biodiversity conservation. This will require ensuring the availability of qualified manpower at federal and sub-national levels. In case of KP, with the merger of FATA, a fresh review of policies and legislations may be needed.

iv) Development of policy implementation strategies including support for full operationalization of REDD+ institutional structures established at national and provincial levels and a communication strategy for promoting ownership with large segments of society and opinion making to counter political interference in forest management

v) Ensuring financial support for effective implementation of forest policies.

vi) Development of a policy implementation monitoring and feedback system to formulate informed policies in the future.

4.2 Organization development and future coordination mechanism

Despite the presence of several coordination forums discussed in chapter 2, an effective working relationship among sub-national forest departments and sister departments is lacking. A similar

disconnect exists between OIGF and the provincial forest departments. To strengthen the coordination the following strategy is advised.

i.   A robust national forest monitoring system may assist OIGF in performing its coordinating role effectively.
ii. In addition, it is also important to ensure coordination at provincial level with other departments, rural development agencies and NGOs for their cooperation in natural resource management to serve mutual objectives (e.g., DRR, livelihoods, income generation, and community empowerment).

The roles and responsibilities of the sub-national Forest Departments regarding communal and private lands (*guzara*) are limited. In view of the new tasks related to climate change and enhancement of biodiversity, guzara and communal lands have a significant role to play. In this context the following strategy may be applied.

iii. The mandate of the sub-national Forest Departments may be reviewed and properly framed in discussion with the private forest owners, and supportive organisations (e.g., NGOs and civil society organizations). This is to reduce the trust deficit which currently exists and to address owners' genuine concerns through participatory forest management planning in context of REDD+. This should be supported by policies and legislation amendments to incorporate provisions with roles of community groups and owners.
iv. Besides, the new tasks may require restructuring of the departments to incorporate new or strengthen and redefine functions, like extension and monitoring.

4.3   Improvement of technical management, extension, and outreach

An important caution is to avoid as far as possible a separation or parallel structures within the forestry organisations. A more successful approach may be to inculcate teamwork among the technical and extension wings of forestry departments. Important components that contribute to successful forestry extension programmes include the professional skills of the forestry extension staff in community participation and outreach. This should be underpinned by a supportive legal framework allowing local stakeholders to share the benefits of sustainable forest management. Similarly, the organizational structure for the forest extension service should be conducive for extension staff to function effectively, i.e., opportunities to engage with local communities, and attractive salary and incentive structures.

The subnational forest departments need to establish and strengthen existing extension systems. Most of the existing forestry staff working in the extension section had no formal training or capacity to provide best possible services as professional extensionists. Therefore, the strategy should aim to encourage creation of an independent section within the departments with sufficient regular professional extension staff along with all modern communication facilities. Also, extension tasks need to be part of the job descriptions of territorial staff to involve them in collaborative forest management approaches. The supportive means of forestry extension are to be employed to convey messages such as, through website and social media, print and electronic media, documentaries, short training sessions, seminars, visits of demonstration sites, slide shows, forestry journals, and workshops.

Forestry extension cannot function without proper technical know-how for sustainable forest management, including the REDD+, climate change and biodiversity. This implies the need for permanent, strong linkages with research institutes and universities for skills development and partnership building in as well as strong linkages and joint workplans of technical territorial and forestry extension staff. Forest extension requires an integrated process, which calls for close working relationships and joint efforts between government agencies and NGOs. In the last few decades, agroforestry or farm forestry emerged as major contributor of trees outside the forests. Agroforestry is now an important source of wood supply in the country as well. The main reason behind this changing trend is increased wood demand due to ban on green felling from natural

forests since 1992. Therefore, a strong coordination between Forest and Agriculture Departments is needed to promote agroforestry, and to bring marginal degraded and abandoned agricultural lands under tree cover.

Improved forestry extension services are essential to engage with community groups, private landholders, and agriculture growers and promote through sustainable (collaborative) forest management through mutual trust.

The strategies to raise the level of technical management and forest extension services in the country need a range of actions, such as:

i) Capitalize on previous experiences in collaborative forest management in the country and use the lessons learnt for community involvement in forestry extension models, applying new technology (including for monitoring; and law enforcement).

ii) Encourage sub-national forest departments to apply Joint Forest Management (collaborative management) and innovative strategies to restore degraded forest areas by involving local communities through reforms in existing forestry laws and new technical and scientifically proved interventions regarding all forest resources including NTFP.

iii) Develop a comprehensive model of forestry extension in close collaboration with Agriculture departments and operationalize it in target areas.

iv) Formally recognize community groups formed under the forestry projects or prevalent in forest rich areas to engage with.

v) Improve current forest extension related capacities with continuous research, training, and knowledge sharing.

vi) Launch broad-based awareness campaigns about values of forest ecosystem in socioeconomic development directed towards the public at large.

4.4   Improvement of financial and human capacities

The major challenge of the forestry sector to successfully manage forestry resources depends on the availability of adequate finances and availability of well-trained human resources. Building capacity of forestry manpower will require long-term efforts and sustenance of investments.

To improve the *financial portfolio* of forestry sector in next 5 to 10 years the following strategy is recommended:

i) Link the ongoing mega-projects and programmes with achievements of national as well as international commitments such as the SDGs, to attract finances from international funding mechanisms, such as GEF, GCF, and various bilateral donor countries.

ii) Explore finances from carbon trading under the REDD+ initiative under partnership arrangements with local communities and the private sector.

iii) Explore and work out innovative funding mechanisms like public-private partnerships (PPP) that have the potential to attract investments in forestry sector. In this regard partnerships with the private sector especially the tourism sector may help significantly to scale-up the financial resources for a range of forest biodiversity protection activities.

iv) Assess and promote recognition of the forestry sectors' direct and indirect contributions to Pakistan's gross domestic product (GDP) as motivation for additional public funding.

v) Improve the NTFPs value chain development and related marketing mechanisms to create opportunities for income generation for local communities.

Human resources need to be strengthened both in quantitative and qualitative terms. Vacant staff positions need to be filled with competent staff. Besides, development through regular capacity-building activities is recognized as an important way forward to improve institutional capabilities required for sustainable forest management. The existing capacities of provincial forest departments and other stakeholders throughout the country require systematic improvements to avail the new technological advantages. Country wide programmes would be

needed for strengthening human resource capacities of forest departments.

The strategies to improve the existing human resource capacity of the forestry sector are:

i) Undertake capacity needs assessment of forestry departments in terms of quantity and quality.
ii) Fill the vacant posts with competent staff. The fact that many positions lay vacant provides the opportunity to look for staff with competences required for the emerging needs of the sector and the departments. Discussions with the Finance Department will be needed to live up to the commitment of sanctioned posts in view of the national and global interests due to the dramatic climate change taking place.
iii) Scale up existing training and capacity building activities and coordinate them with capacity building programmes of other related sectors (e.g. agriculture; water management; tourism).
iv) Equip and modernize existing education, training and research institutions such as PFI with skilled human resources and training facilities.
v) Expand and broaden cooperation for capacity enhancement in forestry sector among diverse stakeholders to ensure continuity of the programme. Improve the capacity of a wide range of forestry sector stakeholders in management, harvesting and processing of NTFPs.
vi) Enhance capacity of forestry manpower in forestry governance (legal aspects, policy making, advocacy, conflict resolution)
vii) Develop and implement an effective communication strategy to help employees to overcome communication gaps within their own departments.

4.5 Improved forest resource governance

The provincial forestry departments' functions mainly include,

i) Policy and regulation
ii) Law enforcement to control illegal tree cutting and encroachment
iii) Forestry resource management
iv) Monitoring of forest resources
v) Devise strategies to improve forestry resources while ensuring sustainable livelihoods

The use of new technology and other management tools such as the application of GIS based planning and monitoring systems have only been recently introduced in forestry sector. The strategy will be to promote the adoption of tools and technology to improve forest management, monitoring and decision-making. It is important to overcome lack of appetite for new technology in forest management and introduce new skills among young foresters. The sub-national forest management entities also lack capacities in areas such as integration of sustainable management principles, biodiversity conservation, landscape and ecosystem-based management, and carbon forestry.

To meet the forestry sector challenges improvement in the forest governance structure and system is needed. This includes improving the way policy making, implementation, monitoring, coordination take place and cooperation with actors is sought for achieving the goals effectively and efficiently. The national and sub-national forestry institutions need to adapt new technologies. With changing forest policy discourses and an increasing emphasis on participatory management, forest governance systems will become transparent, decentralized, accountable and efficient.

Forest governance in the new context will also require changes in the strategy to organize the sub-national Forest Departments and manage human resources. It may involve the reconsidering the organizational set-up because of the influx of new professions. It also requires revisiting job descriptions and ways of undertaking performance reviews especially regarding the

technical and extension tasks – in parallel to the conventional ACR (Annual Confidential Report) system as a separate measure to assess performance of forestry staff with awards for recognition of outperformers.

4.6   Revision of forestry manual

The forestry manual is a systematic compilation of information on the notified laws, rules, procedures, job descriptions, and other relevant legal, financial, and organizational processes. It is a document which can be termed as a ready reference guidebook that helps forest formations in their day-to-day field as well as official operations. Forestry manuals themselves are not a legally binding document. The staff of all provincial forest departments certainly refers to individual original legal documents contained in the manual (e.g., Forest Act 1927, AJK Forest Regulation (Amendment) Act 2017, Punjab Protected Areas Act 2020, KP Management of Guzara Rules 2004, Balochistan Rules of Business 2012 etc.) In Pakistan, except Balochistan Forest Department, all other sub-national forest entities occasionally refer to forestry manuals for their official use. Balochistan reported not using the manuals at all but individual legal documents.

The detailed managerial responsibilities and related rules and procedures in practice of sub-national forest departments are spelled out in Forestry Manuals, as follows:

i)   Forest Manual, Volume-I, dealing with forest administration, forest acts and the rules made under the Forest Acts
ii)   Forest Manual, Volume-II, addressing matters related to establishment, accounts, and budget
iii)   Forest Manual, Volume-III, dealing with procedures and preparation of working plans, management plans, etc.

In most of cases, it was found that there was substantial realization about importance of revision of forestry manuals, but the departments have failed to update and revise the manuals to make them at par with the changing needs of forestry sector. The existing status of the forestry manuals is as follows:

a) Punjab
The provincial Forest Department has **revised its Forest Manual in 2020** by incorporating updated information regarding establishment of forest companies and public private partnership rules. However, yet it lacks information on purpose, objectives, working modalities of the recently created forestry extension wing within the department. Similarly, it is also silent about REDD+, and SFM guiding principles adopted by the department. All these new trends and related information still need legal and policy backing. The new forest policy addresses new elements of sustainable forest development initiatives to some extent but without strong legal support.

b) Sindh
The forest manual of the province in its present form is **outdated and needs revision** to accommodate routine procedural information such as changes in the delegation of powers, the objectives of forest policy, formalization of de facto practices (hunting rules, transit rules, etc.), and the recently evolved organizational set up of the department to improve forest management, forestry extension, REDD+ implementation procedures and the rules for community participation.

c) Khyber Pakhtunkhwa
The forest manuals of KP comprise three tiers containing information on legal, structural, and financial reforms. It has been **revised in 2018 but not yet approved** and notified. It covers the existing extension system in operation. Further, it has not yet integrated the new role of REDD+ in forest management. The monitoring mechanism was not under consideration during revision.

d) Balochistan
The Provincial Forest department **does not consider the forest manual** as an important guiding tool to be followed without any legal standing and because the manual is not compatible to the

ground realities of the province. It is felt that the forest management systems in place fulfil the needs of the province and there is no need to maintain a separate forestry manual.

e) Gilgit-Baltistan

The **revision of the GB forest manual is in draft** updating its three parts i) establishment, ii) laws, and iii) services. Among new mechanisms REDD+ has been addressed in different policy interventions. However, it may require separate rules. Changes in forest planning and monitoring systems are not part of forestry manuals under revision. As regards to the forestry extension system, changes have been integrated in new Forest Act 2019.

f) Azad Jammu & Kashmir

The AJK Forest Department has **updated its forestry manual in 2017** with the inclusion of new information regarding ban on land use changes and actions approved against forest encroachers. Similarly, carbon has been recognized as commodity under REDD+ mechanism in the revised Forest Act 2017. The effective monitoring concerning implementation of workplans, and forestry extension system is planned to be streamlined during the next manual revision.

5 SUMMARISED CONCLUSIONS AND RECOMMENDATIONS

The assessment shows that forest technical and extension systems in the country are not well developed. They lack focus and are not consistent with the principles of sustainable forest management and fully equipped to handle new challenges posed by the need to shift forest management to address issues like climate change mitigation, biodiversity conservation and REDD+. The current system is not inclusive and compatible to address all values and ecosystem services of the forest such as timber, biodiversity, carbon sequestration, ecotourism, NTFP's, and watershed protection. The technical and extension systems are not compatible with these functions.

Although some changes have been made to the extension and technical systems, the structure of the forest departments and institutional behavior in general is mainly suited to the centuries old objective of forest protection mainly for timber production. However, KP and Punjab seems ahead of other provinces where forest extension wings within the departments have been established. In the rest of four sub-national entities, traditional resource management structure continues to prevail. Temporary organizational changes are subject to time-bound projects. The move towards changing focus of forest management is evolving through programmes like BTAP and REDD+.

The forest technical and extension systems in the provinces have virtually no link with applied research institutions, notably PFI, that would learn from field experiences and include latest scientific and technological insights in forestry education.

Some provinces have enacted new regulations; however, the Forest Act 1927 by and large remains the main legal reference document. The Forest manuals generally lack clear references to the extension function and not updated to incorporate recent changes in legislation. Relevant individual legal documents are used in day-to-day operations, while the forest manual is generally not referred. With the above summary the main findings are combined with the recommendations in the matrices, below to avoid repetition.

Finding (1): Policy and legislation

The existing policies and frame conditions are not aligned with new requirements of forestry technical and extension systems.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Adapt, finalize and approve new forest policies, legislation and rules enabling for participatory forest management	✓	✓	✓	✓	✓	✓	
Engage sub national forest departments prior to international negotiations							✓
Review Guzara rules since these rules do not apply in un-demarcated Guzara forest areas	✓						
Introduce timber harvesting rules for effective forest management including operationalizing hygienic felling[9].	✓	✓					
Address issue of land use change with strict measures[10]	✓	✓	✓	✓	✓	✓	
Promote public private partnership (PPP) by framing necessary rules	✓	✓	✓	✓	✓	✓	

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[9] This is necessary due to continued ban on timber harvesting. In case of KP's Guzara forest, communities have lost interest in participatory forest management. The forest plans should cater for integrated natural resources management.

[10] In Guzara forests of KP District administrations have no law to control this practice; In Balochistan also a policy gap leads to rapid change of land use

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Incorporate legal backing for community institutions for their role in sustainable forest management		✓	✓	✓	✓	✓	

Finding (2): Technical management systems

The technical management systems of the national and sub-national forestry institutions have not been adjusted to changes in forest management objectives yet. With changing forest policy discourses on the objectives of forest management to a broad array of ecosystem services of forests and an increasing emphasis on participatory management, forest governance systems must technically change and become more transparent, decentralized, accountable and efficient.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Develop technical packages for sustainable forest management based on the diverse eco-system services of forests	v	v	v	✓	✓	✓	
Promote enhancement of trees outside forests (agroforestry, urban forestry) to supplement sustainable natural forest management through cooperation with local governments and CSOs	✓	✓	✓	✓	✓	✓	
Encourage public private partnerships for adding value to the non-timber benefits of the forests	✓	✓	✓	✓	✓	✓	
Develop alternative energy sources by investing in technology and skills in cooperation with other government departments and the private sector	✓	✓	✓	✓	✓	✓	✓
Address capacity challenges regarding the effective use of GIS based modern technology for resource monitoring and decision making	✓	✓	✓	✓	✓	✓	

Finding (3): Extension and community outreach systems

Forest extension is not a well-known concept in forestry service of Pakistan. Where already incorporated, the field practices are not consistent and staff capacities are inadequate to fully utilize potential of communities in sustainable forest management.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Establish forestry extension wings where they do not exist at sub national level; strengthen extension wings where exist with capable staff and skills	✓	✓	✓	✓	✓	✓	
Strengthen capabilities in extension practices for collaborative forest management at all levels of the departments	✓	✓	✓	✓	✓	✓	
Develop a strong, independent system for FGRM to maintain transparency and avoid conflict of interest.	✓	✓	✓	✓	✓	✓	
Establish appropriate fora to support / oversee effectiveness of extension consisting of representatives of major stakeholders (government; community representatives; private sector)	✓	✓	✓	✓	✓	✓	
Introduce participatory approaches in planning, implementation and monitoring of forestry resources replacing conventional forest management plans, involving local stakeholders and CSOs	✓	✓	✓	✓	✓	✓	
Promote environment friendly tourism	✓	✓	✓	✓	✓	✓	
Strengthen communication and awareness raising strategy on sustainable forest management for citizens engagement	✓	✓	✓	✓	✓	✓	

Finding (4): Human resource management

The national and sub-national forestry sector faces shortage of manpower in terms of quantity and quality to handle the new scenarios of climate adaptation and biodiversity conservation. Especially, the sub-national departments lack robust knowledge of forestry extension strategies and communication tools.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Build capacity of existing technical and extension units with adequate resources	✓	✓	✓				
Analyze adequacy of staffing, required capacities in terms of quantity and quality	✓	✓	✓	✓	✓	✓	
Develop career paths for non-forestry specialized professionals and technical staff to avoid a brain drain	✓	✓	✓	✓	✓	✓	
Revisit ratio of staff in senior and field (BPS 15 and below)			v	✓	✓	✓	
Strengthen forestry education and research institutions and revise their curricula and research programmes to accommodate the emerging needs of the forestry sector regarding climate change and forestry extension.	✓	✓	v	v			
Identify opportunities, provide and institutionalize capacity building especially regarding participatory or collaborative forest management, REDD+ and use of technology	✓	✓	✓	✓	✓	✓	
Establish forest training school for staff training					✓	✓	

Finding (5): Financial resources

The forestry sector has historically received low investment and low priority. However, during the last ten years, the situation has improved. There is a 220% increase in non-development and 166% in development budgets. Launching of the flagship programmes such as TBTTP, BTAP, large scale mangroves restoration activities, implementation of donor funded REDD+, SFM, MFF initiatives and several other projects has led to improved allocations for forestry sector position and may be the beginning of a permanent policy shift towards green investment. Although allocation of public funds to the forestry is increasing, private sector investment on forestry is lacking. It needs to be enhanced through partnership building with private sector. In addition, most initiatives are dependent on project funding. These are not self-sustained.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Acquire commitment from government at federal and provincial levels for adequate financial resources for strengthening forestry departments in view of the climate crisis and related human, economic and social risks for the country	✓	✓	✓	✓	✓	✓	✓
Explore innovative financial mechanisms to boost self-sustenance of REDD+ activities including local stakeholders	✓	✓	✓	✓	✓	✓	✓
Explore the role that private sector can play particularly through investments in NTFPs development and carbon credit trading under REDD+ mechanism	✓	✓	✓	✓	✓	✓	✓

Finding (6): Coordination

Coordination between federal and sub-national forestry sector institutions has been limited. In recent years, the mega forestry projects and REDD+ have contributed significantly to enhance collaboration between sub-national forestry departments and MOCC. The coordination among forestry research, education, and extension disciplines and linkages with technical forest management at sub-national level is limited. NGOs and civil society organizations give some support in community engagement in sustainable forest management, but their potential contribution is not tapped yet.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Strengthen Provincial REDD+ Management Committee composition with representation from all relevant departments to enhance external coordination and ownership	✓	✓	✓	✓	✓	✓	
Strengthen and ensure the functioning of the Federal Forestry Board to enhance coordination and ownership with other relevant departments at federal level							✓
Institutionalize arrangements for REDD+ implementation on permanent basis	✓	✓	✓	✓	✓	✓	✓
Improve the coordination between forestry research and education, and technical and extension wings of sub-national forest departments through joint committees and national coordination meetings	✓	✓	✓	✓	✓	✓	✓
Activate the implementation on MoU's signed with different universities and research institutions				✓			
Ensure, coordination and cooperation between technical forest management and extension through joint planning and working sessions in departments with extension wings	✓	✓	✓				
Strengthen coordination mechanism and technical outreach with all other relevant departments (mining, tourism, fisheries, agriculture, livestock, water, land revenue, finance, P&DD) at federal and sub-national levels to ensure do no harm to forest resources, e.g., through the establishment of a Provincial Forestry Council and reinstituting Federal Forestry Board	✓	✓	✓	✓	✓	✓	✓
Activate defunct Forestry Round Table with stakeholders (notified in 2005, No. SO(Tech)ED/V-595/2003/KC).	✓						

Finding (7): Forest Manuals

Forest Manuals do exist but have limited use in daily practice. Balochistan does not use a Forest Manual. Moreover, the Forest Manuals are not consistent with the emerging needs of the sector and require alignment with changes in policies and organizational set-up of the forest departments.

Recommendations	KP	Punjab	Sindh	Balochistan	GB	AJK	MOCC
Update Forest Manual (or develop a comparable document) in order to align them with the changes in policies and organizational set-up and procedures for collaborative forest management and get them approved so that they may function as useful guiding documents for operational activities of the departments	✓	✓	✓	✓	✓	✓	✓

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Assess Forest Technical and Extension System to Enhance Institutional Competence

Scope:

Forestry governance in the Indo Pak sub-continent has a long history since the late 19th century with the appointment of the first Inspector General Forests in 1896. Historically, Forestry remained a provincial subject even after independence of Pakistan. In the Constitution of Islamic Republic of Pakistan 1973, Forestry is purely a provincial subject and not impacted by the eighteenth amendments in the Constitution (2010).

By and large, Pakistan is a forest-poor country whereby natural forests cover 3.44 million ha of land area of Pakistan. The land-tenure systems are complex. Past trends and the current state of forests and forestry indicate that large-scale deforestation and degradation of natural forests have occurred. There might be many reasons behind low forest cover, but the principal cause lies in the fact that technical and extension systems of the forest departments have not been reviewed since the independence of this country.

The National Forest Policy (2015) identified that the forests and ecosystems in Pakistan are managed by manpower available in the Provincial departments of Forest, Wildlife and / or Fisheries. Unfortunately, each department has a system of management in isolation from other closely related departments / disciplines. The contemporary scientific knowledge calls for taking a holistic approach or ecosystem approach to better achieve the objective of conservation and sustainable use.

Guidelines:

The study is targeted to assess the current technical and extension systems of the Forest Departments of Four Provinces, AJK and GB. Moreover, the Consultancy Firm is also required to assess the role of Office of the Inspector General Forests of the Ministry of Climate Change in terms of its advisory, technical, extension and coordination roles. The Consultancy Firm should identify the weaknesses and strengths of each and also recommend measures for up-bringing roles to meet the current day challenges in the field of forestry.

Specific Objectives:

- To evaluate, understand and analyze the existing technical and extension systems in vogue including coordination mechanism at federal and provincial levels.
- To assess the constraints in terms of finances and manpower of each of the province, territory and that of OIGF.
- To identify the province / territory wise new roles of forest departments (technical and extension) and recommend future coordination mechanism between federal and provincial governments regarding implementation of forest related activities.
- To Translate and disclose key forestry documents.

Specific Tasks:

The consultant is required to analyze and review historical and current perspectives of forestry technical and extension / outreach systems in the country, covering the following aspects:

1) Forest management objectives, policy implementation, management strategies, capacities (human and administrative), tools and monitoring procedures; how these have evolved over time.
2) Identify gaps and propose suitable forest management strategies, techniques and mechanisms.
3) Examine existing approaches to forest extension and outreach (liaison with print and electronic media, social media, periodical consultative meetings, newsletters, annual reports, curriculum, etc.); personnel capacities of forestry extension staff and identify gaps.
4) Suggest strategies for improvement in governance and institutional arrangements for the current technical and extension systems, of each sub-national forest department including OIGF, based on best practice experiences elsewhere.
5) Undertake analysis of financial allocations for the forestry sector in terms of overall percentage of GDP at the national and provincial level and carryout a comparative analysis of the same with other regional countries.
6) Frame the do-able recommendations for each of sub-national forest department and that of the OIGF for a meaningful role in terms of vibrant departments to overcome emerging challenges in the face of ecological services; economic well-being of the dependent communities; climate change mitigation; enhancement of biodiversity and carbon financing.
7) Develop a future coordination mechanism between federal and provincial governments regarding implementation of forest related activities in line with the implementation framework of REDD+ in consultation with provincial and national stakeholders.
8) Review and recommend revisions in forestry manuals at sub-national levels based on evolving needs of forestry governance.
9) Identify and collect key forestry documents including (but not limited to) reports on laws, policies, research reports and management plans at national and sub-national levels.
10) Digitize the collected documents for uploading on website.
11) Update and digitize book on Trees of Pakistan.
12) Translate key forestry documents including National Forest Policy (2015) and Pakistan Climate Change Act (2017) in Urdu.

Outputs:

- A comprehensive report (language edited) with sub-national information on Forestry Technical, Extension Systems and Coordination mechanisms with recommendations for improved coordination mechanisms and enhanced institutional competence.
- An Infographic summarizing the key information on forestry technical and extension systems.
- Report on consultative workshops both at provincial and national levels for identification and validation of existing systems as well as endorsement of any proposed measures.
- A photographic /documentary record of the consultations
- Translated Key Forestry documents including NFP (2015) and Pakistan Climate Change Act (2017) in Urdu.
- Updated and digested book on trees of Pakistan
- Key forestry documents and maps of Pakistan digitized and uploaded at NFMS Web Platform.

Tool used for Assessment of Forest Technical and Extension [11]System to Enhance Institutional Competence

Province name:

Objective I: Evaluate, understand, and analyse the existing technical and extension systems in vogue including coordination mechanism at federal and provincial level

Task 1: Forest management objectives, policy implementation, management strategies, techniques, and mechanisms.

Task 2: Identify gaps and propose suitable forest management strategies, techniques, and mechanisms

Required Information	Assessment Description	Gaps / Recommended Revisions
Forest Management Objectives		
List key forest policies, Acts, and rules in vogue in the sub national entity *(Support with documents)*		
Overall objective statement in the sub entity as per current forest policy *(Support with policy document)*		
3. Policy priorities as per sub national forest policy		
4. Policy implementation.		
Policy Implementation strategies, techniques, and mechanisms		
5. Key legal forest categories in sub national entity.		
6. Key Forest types in sub national entity.		
7. Key Forest management system by forest types (regeneration, felling, tending etc.) *(Support with documents)*		
8. Forest resource monitoring in place to see effectiveness of forest management systems prescribed.		
9. The mechanism in place to steer effectiveness of implementation system.		

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[11]*Forest extension is to engage relevant communities by the forest services for sustainable forest management. Extension is the dissemination of relevant information and advice to farmers and a mechanism for delivering information and advice as an input in modern farming. Extension education is regarded as one of such wide educational inputs designed for farmers to help themselves (Onumadu et al., 2001). Forestry extension programmes are designed to meet the needs of small- scale farmers through agroforestry technology, conservation of small-size log and wood processing technology, scientific information about biodiversity and new concepts in conservation (Agbogidi, and Ofuoku, 2009).*

Objective I: Evaluate, understand, and analyse the existing technical and extension systems in vogue including coordination mechanism at federal and provincial level

Task 3: Examine existing approaches to forest extension and outreach, personnel capacity of forestry extension staff and identify gaps.

Required Information	Assessment Description	Gaps / Recommended Revisions
Forest Extension and Outreach Tools.		
10. Liaison with print and electronic media.		
11. Activity update on social media.		
12. Periodical consultative meetings.		
13. Regular newsletter.		
14. Annual reports.		
15. Public campaigns with open participation.		
16. Self-learning curricula / modules for tree lovers.		
17. Websites / web portals (open to public).		
18. What is the definition of forest extension in the sub national entity?		
19. Who is included among forest extension staff / services.		
20. Regular TNA conducted.		
21. Regular training of these staff.		
22. Training mechanism and facilities for training.		
23. Availability of training curricula.		

Objective I: Evaluate, understand, and analyse the existing technical and extension systems in vogue including coordination mechanism at federal and provincial level

Task 4: Suggest strategies for improvement in governance and institutional arrangements for the current technical and extension systems

Required Information	Assessment Description	Gaps / Recommended Revisions
Forest Governance issues.		
24. Key Forest governance issues in sub national entity.		
25. Key remedies defined for identified forest governance issues. *(Refer to specific policy, rules, change in policies)*		
26. These remedies are yielding good results.		
27. Changes in the pipeline to make forest governance more effective.		
28. Forest resource planning methodology is participatory in nature *(Support with documents)*		
29. Forest resource information is accessible by stakeholders.		
30. Coordination with multi-sector actors (*non-forestry*) to address relevant governance issues.		

Institutional arrangements for technical and extension systems.		**Gaps / Recommended Revisions**
31. Organisational structure of sub national forest department *Support with organisation chart*		
32. Arrangement for supporting technical[12] forest resource management.		
33. Arrangements for supporting extension for forest resource management.		
34. Coordination with other actors at the field level.		
35. What support does the sub national entity get form OIGF.		
36. Involvement of communities in forest management systems described earlier.		
37. Key mechanisms to engage communities (e.g. JFM).		
38. What are the indicators of success of technical support system.		
39. What are the indicators of success of extension support system.		

12*Technical in the context of forest management is the ability to accomplish tasks such as forest management planning, forest resource monitoring, forest utilization, forest. regeneration, ecological* services, *climate change, enhancing biodiversity, carbon financing etc.*

Required Information	Assessment Description	Gaps / Recommended Revisions
40. OIGF: Current structure of the office.		
41. OIGF: How does OIGF support sub national entities in achieving forest resource management objectives.		
42. OIGF: What are the indicators of effectiveness of support extended to sub national entities.		
43. OIGF: Coordination with other actors at national level for policy making.		

Objective II: To assess the constraints in terms of finances and manpower

Task 5: Analysis of financial allocations for the forestry sector in terms of overall % of GDP at national / provincial levels over the last 10 years.

Required Information	Assessment Description	Gaps / Recommended Revisions
Financial and manpower allocation.		
44. Financial allocation per sub entity level – last 10 years: *Non-development Administrative* *ADP Others (donor financed)* *(Support with documents)*		
45. Manpower allocation total in the following categories: • *Officers (16 and above)* • *Remaining field staff (15 and below)* *Administrative staff*		
46. Manpower in place total • *Officers (16 and above)* • *Remaining field staff (15 and below)* *Administrative staff*		
47. Is the current human resource capacity relevant to the new expected roles to be performed by the department (REDD+, climate change etc.)		
48. OIGF: Financial allocation for national level • *Non-development / Administrative* • *Forestry PSDP (MOCC*		
49. OIGF: Manpower allocation total • *Technical staff* • *Administrative staff*		
50. OIGF: Manpower actually in place • *Technical staff* • *Administrative staff*		

Objective III: Identify new roles of forest department (technical & extension); recommend future coordination mechanism bn federal, provincial governments reg. implementation of forest activities.

Task 6: Recommendations for a more meaningful roles to become vibrant actors
(Ecological services, economic well-being of forest dependent community, climate change, enhancing biodiversity, carbon financing etc.).

Required Information	Assessment Description/ Recommendations
Organizational SWOT	
51. Key organizational strengths (max 3)	
52. Key organization weaknesses (max 3)	
53. Key organizational opportunities (max 3)	
54. Key organizational threats (max 3)	
What is needed to become a vibrant organization.	
55. Technical capability to perform ecological, economic, climatic, biodiversity and carbon financing services etc.	
56. Extension and outreach capability to engage forest dependent communities.	
57. Forest resource monitoring capability.	
58. Participatory Forest management systems for well-being of forest dependent communities.	
59. Financial flow for achieving new / expected roles.	
60. Ensure intersectoral coordination mechanism.	
61. Address missing policies or framework for effective implementation of forest management systems *(e.g., benefit sharing & distribution mechanism, SESA, Safeguards, biodiversity conservation, grievance redressal mechanism etc.)*	
62. Any other area.	
63. OIGF: Improve technical capability to support sub national entities in complying international obligations.	
64. OIGF: Improve Forest resource monitoring capability at national level.	
65. OIGF: Improve financial allocation to new challenges to be performed by the sub national entities.	
66. OIGF: Address missing policies or framework of implementation.	
67. Ensure intersectoral and inter-provincial coordination mechanism.	
68. OIGF: Any other area.	

Objective III: Identify new roles of forest department (technical, extension); recommend future coordination mechanism bn federal, provincial governments reg. implementation of forest activities

Task 7: Future coordination mechanism between federal and provincial in line with implementation framework of REDD+

Required Information	Assessment Description	Gaps / Recommended Revisions
Roles and responsibilities of sub national entities.		
69. Existing institutional arrangement for coordination on REDD+.		
70. Communication between federal and provincial on negotiations for REDD+ and other international obligations.		
71. Communication with masses on implementing REDD+ activities.		
72. Continuation of REDD+ functions.		
73. Clarity of roles among sub national entities and OIGF.		
Roles and responsibilities of OIGF.		
74. Existing institutional arrangement for coordination on REDD+.		
75. Communication between federal and provincial on negotiations for REDD+ and other international obligations.		
76. Communication with masses on implementing REDD+ activities.		
77. Future of REDD+ once project funding is over		
78. Clarity of roles among sub entities and OIGF.		

Objective I: Evaluate, understand, and analyse the existing technical and extension systems in vogue including coordination mechanism at federal and provincial level
Objective II: To assess the constraints in terms of finances and manpower
Objective III: Identify new roles of forest department (technical, extension); recommend future coordination mechanism bn federal, provincial governments reg. implementation of forest activities

Task 8: Recommend revisions in forestry manuals based on evolving needs of forestry governance.

Required Information	Assessment Description	Gaps / Recommended Revisions
Deliberations on changes in forestry manual.		
79. Has the existing forestry manual been revised updated? Which parts? *(Support with documents)*		
80. What is the analysis on inconsistencies with REDD+ compliance (e.g., new roles to be performed by sub national entity) and recommendations?		
81. Has there been any changes to remove those inconsistencies?		
82. Changes in forest planning and monitoring systems for considering in the manual revision.		
83. Changes in forestry extension system for considering in the manual revision.		
84. Any other vital change required to improve institutional competence.		

A Consolidated List of FGDs and Sub-national Workshop Participants

Sr. No	Name of participant	Designation/organisation
	Office of the Inspector General Forests, Ministry of Climate Change	
1	Dr. Raja Muhammad Omer	Deputy Inspector General (Forests)
2	Mr. Naeem Ashraf Raja	Director Biodiversity Programmes
3	Mr. M. Samar Hussain Khan	Conservator Wildlife/ CITES Management Authority
4	Dr. Rizwan Irshad	Deputy Director, Biodiversity Programmes
5	Mr. Karim Ullah Khan	Assistant Statistical Officer (Forestry)
	Punjab Forest Department	
6	Muhammad Faisal Haroon	Chief Conservator Forest (Extension & Re)
7	Muhammad Abdul Muqeet Khan	Chief Conservator Forest (Northern Zone)
8	Abdul Razzaq	Conservator Forest (Extension) Rawalpindi
9	Mr. Saqib Mehmood	Conservator Forest (Rawalpindi North)
10	Mr. Iftikhar ul Hassan Farooqi	Director Forest Service Academy/ REDD+
11	Sardar Fida Hussain	Conservator Forest (Retired)
12	Muhammad Farooq	Conservator Forest (Retired)/ Coord. SFM
13	Community consultations	Kotli Sattyan, Khushab
	Sindh Forest Department	
14	Dr. Badar Jameel Mandhro	Secretary, Sindh Forest Department
15	Mr. Aijaz Ahmed Nizamani	CCF Social Forestry, Sindh Forest Department
16	Mr. Jabbar Qazi	Chief Conservator of Forest, Sindh Forest Department
17	Mr. Riaz Wagon,	CCF/ Provincial REDD+ Focal Point
18	Mr. Saeed Ahmad Pirani	Director (Sericulture & Research) Sindh Forest Dept:
19	Mr. Hyder Raza Khan	Conservator Forest (Social Forestry)
20	Syed Amjad Ali Shah	Conservator Forest (Research & Monitoring)
21	Mr. Shahzad Sadiq Gill	Divisional Forest Officer (Mangrove), Sindh Forest Dept.
22	Mir Muzaffar Talpur	Conservator Range Management - SWD
23	Mr. Arif Ali Khokhar	Conservator Forests (Mangrove), Sindh Forest Dept.
24	Dr. Kanwal Nazim	Mangrove Forest Activist, Karachi
25	Community consultations	Veeran Mulchand Thatta, Waheedpur Sukkar /Kashmore
	Balochistan Forest Department	
26	Abdul Jabbar	Chief Conservator Forest (North)

27	Zaigham Ali	Chief Conservator Forest (South)
28	Masroor Jamal	Chief Conservator (Soil Conservation)
29	Mr. Niaz Khan Kakar	Conservator of Forest/ Provincial REDD+ Focal Point
30	Sagheer Ahmed	Director Soil Conservation
31	Mohammad Aslam	Conservator Forest (Admn)
32	Mr. Yar Muhammad	Conservator of Forests
33	Mr. Mohammad Jan	Conservator of forests
34	Rana Muhammad Mazhar Liaqat	Conservator Watershed Mgt (North)
35	Muhammad Latif	Conservator Forest (Education)
36	Muhammad Kaleemullah	Conservator Forest (Research)
37	Samiullah Jaffar	Deputy Conservator Forest (Research)
38	Ahmed Jan	Assistant Professor (Forestry)
39	Community consultations	Miani Hor Lasbela, Sasnamana Ziarat, Gastoi Zhob
	Khyber Pakhtunkhwa Forest Department	
40	Muhammad Iqbal Swati	Chief Conservator Forests (Rtd.), KP Forest Department
41	Muhammad Arif	Deputy Chief Conservator Forest, KP Forest Dept.
42	Mr. Gohar Ali	Provincial REDD+ Focal Point/ DFO (P&M), KP
43	Mr. Mohammad Riaz	Sarhad Awami Forestry Itehad
44	Mr. Kaleem Shah	Deputy Director (HRD), KP Forest Department
45	Muhammad Ibrahim Khan	M&E Officer (10-BTTP) KP Forest Department
46	Iftikhar Ahmed	Director NTFP, KP Forest Department
47	Tariq Khadim	Deputy Director, R&D Directorate – KP Forest Dept.
48	Fazal Illahi	Director CDE & GAD – KP Forest Department
49	Anwar Ali	Director (FR), Pakistan Forest Institute, Peshawar
50	M. Yousaf Khan	Conservator Forest (Malakand West)
51	Community consultations	Bamboret Chitral, Miandam Swat, Makhnial Haripur
	Azad Jammu and Kashmir	
52	Sardar Muhammad Naseer	Chief Conservator Forest (Principle)
53	Mr. Irtaza Qureshi	REDD+ Focal Person/ DFO, Forest Dept. Govt. of AJK
54	Abdur Rauf Qureshi	Chief Conservator Forest (Retired)
55	Mr. Bilal Ahmad	Divisional Forest Officer (Research), Forest Department.
56	Mr. Asad Mahmood	Conservator of Forest, Forest Dept. Govt. of AJK
57	Abdul Qayyum Chaudhry	Conservator Forest (Retired)
58	Manzoor Maqbool	Conservator Forest (Neelum)
59	Arshad Khan	Regional Project Director – TBTTP
60	Mir Naseer Ahmad	Divisional Forest Officer – Ref NV
61	M. Shahbaz Khan	DFO (Watershed) Neelum

62	Awais Javed	DFO (Rangelands) Muzaffarabad.
63	Syed Mazhar Hussain	DFO (Ref. Muzaffarabad)
64	Community consultations	Lachrat Muzaffarabad, Chinari Hattian
	Gilgit-Baltistan Forest Department	
65	Dr. Zakir Hussain	Chief Conservator Forest – GB (Forest & Wildlife Dept.)
66	Mr. Muhammad Essa	Provincial REDD+ Focal Point/ Divisional Forest Officer
67	Wilayat Noor	CCF (Rtd.) – GB Forest & Wildlife Department
68	Parveen Javed	Liaison Officer (ETI), GB
69	Dr. Muhammad Zaman	Community Representative – Diamir District - GB
70	Ghulam Nabi	Chairman, Nanga Parbat Foundation, GB
71	Muhammad Darjat	Community Representative – Gilgit District, GB
72	Community consultation	Guru Juglot, Gudai-Shikang, Makhili Chilas
	Helvetas Pakistan Team	
73	Dr. Arjumand Nizami	Country Director / Team Leader Package 5
74	Dr. Jawad Ali	Team Leader Package 2
75	Mr. Raja Tariq	Provincial Coordinator-Punjab
76	Muhammad Bashir Khan	Provincial Coordinator-AJK
77	Mr. Khalil Ahmad	Provincial Coordinator-GB
78	Mr. Sadiq Mughal	Provincial Coordinator-Sindh
79	Mr. Nadeem Bukhari	Provincial Coordinator KP
80	Dr. Zahoor Bazai	Provincial Coordinator Balochistan
81	Kamran Hussain	REED+ Strategy Expert
82	Abdul Munaf Qaimkhani	Multi-Stakeholder dialogue Facilitator
83	Mr. Hammad Gilani	GIS Specialist
84	Mr. Hammad Satti	Research Officer
85	Mr. Muhammad Riaz	Manager Admin.
86	Mr. Munawar Khattak	Project Coordinator
87	Mr. Israr Khan	I.T. Department (Helvetas)

Main Objectives of Sub-national Forest Policies

Punjab – The basic policy elements covered under 'Punjab Forest Policy 2019' are:

1. enhance forest resource and tree cover,
2. improve agroforestry practices through independent extension services,
3. promote public private partnership to ensure investments in forestry sector,
4. strengthen forest research activities,
5. ensure compliance of various national and international obligations,
6. encourage sustainable forest management,
7. manage forests as biological reserve and ecological assets,
8. develop institutions to strengthen extension services, watershed management and protected areas, etc., and
9. make necessary legislation to address emerging challenges.

Sindh – The objectives of the 'Sindh Sustainable Forest Management Policy 2019' include:

1. improve governance,
2. address climate change mitigation and adaptation through REDD+, etc.,
3. manage riverine forests and irrigated plantations sustainably,
4. conserve and restore mangrove ecosystem for the wellbeing of coastal community,
5. enhance values of rangelands designated as 'protected forests',
6. ensure demarcation and re-notification of state forest lands,
7. extend scope of social forestry,
8. promote forestry research, education, conservation of NTFPs and wildlife resource,
9. strengthen institutional capacity to effectively implement policy, and
10. ensure compliance of all national and global obligations related to forestry, biodiversity, and climate change.

Khyber Pakhtunkhwa – The Government of the Khyber Pakhtunkhwa (then NWFP) formulated the 'KP Forest Policy 1999'. The objectives of this policy are:

1. meet domestic needs of timber, firewood and grazing for local communities,
2. increase income of the local people,
3. enhance protective functions of forest (watershed, soil erosion, sedimentation, and flood control),
4. manage and rehabilitate rangelands,
5. contribute towards need of commercial timber, ecotourism, and medicinal plants,
6. conserve and promote fisheries, wildlife, sericulture, and other natural resources,
7. generate income for forest owners i.e., Guzara Forests in protected forests,
8. conserve biodiversity,
9. promote non-consumptive uses of forests,
10. improve quality of environment through urban forestry,
11. foster and support sustainable forest management at large, and
12. assist Government of Pakistan in meeting international commitments.

Balochistan – In the province of Balochistan, there is no forest policy.

The process for formulation of policy is initiated by the provincial forest department recently. However, as sectoral objectives, the protection and conservation of forests and rangeland resources are in focus since years. Other forestry sector priorities are to promote regeneration of Juniper and Chilghoza forests, protect small patches of mangroves, and encourage canal side plantations.

Gilgit-Baltistan – Forest policy of GB is under process.

The provincial forest department has mainly prioritized its policy guidelines to protect and conserve forest resources located at the state lands and manage private forests of Diamer on sustainable basis to facilitate local communities dependent on this resource. However, all new and emerging challenges related to the forestry sector in GB, such as climate change, biodiversity loss, ecosystem-based management, etc., will be addressed in the forest policy under preparation.

Azad Jammu & Kashmir – Draft AJK Forest Policy developed in 2014 (revised in 2019) is in the process of approval. Its basic objectives are:

1. restore and maintain natural forests to preserve ecological functions,
2. increase forest productivity to meet demands of timber, fuelwood, fodder, and non-timber forest products (NTFPs),
3. encourage efficient use of wood products and maximize wood substitution,
4. enhance carbon sequestration capacity and mitigate negative impact of climate change,
5. mainstream sustainable forest management into sectoral policies and plans through inter-departmental coordination,
6. conserve biodiversity,
7. foster public private partnerships for enhancement of forest cover,
8. strengthen forest department to cope with the emerging challenges,
9. create awareness and involve local communities and other stakeholders in sustainable forest resource management,
10. adopt best management practices to promote NTFPs, nature-based tourism (ecotourism), etc., and
11. contribute to national obligations under Multilateral Environmental Agreements (MEAs).

Details of functions performed by Office of Inspector General of Forests

a) **The details of activities under above function (a) assign National policy, plans, strategies and programmes regarding ecology, forestry, wildlife, biodiversity, and desertification;**

- Facilitating inter-provincial coordination and national planning on forestry, wildlife, biodiversity, wetlands, and sustainable land management.
- Inter-provincial/ inter-ministerial planning, monitoring, and reporting on tree planting campaigns.
- Operations of Defense Afforestation Committee.
- Screening and processing of relevant Development projects for PSDP funding.
- National policy formulation for Forestry, Wetlands, and Wildlife.
- Facilitation in GEF (Global Environment Facility) and other donor-assisted projects implemented by provinces and NGO's.
- Technical assistance/ training and capacity building of sub-national entities through PSDP and donor funded projects.
- Regulation of export and imports of wild fauna and flora as per export and import policy order and provisions of CITES.
- Regulation of import and export of specimens under Nagoya Protocol only for research purposes.
- Regulation of community-based trophy hunting programmes of CITES species.
- Implementation of Cabinet Decisions, Presidential directives, PM directives, National Assembly Standing Committee, Senate Standing Committee, etc.

b) **Coordination, monitoring, and implementation of environmental agreements with other countries, international agencies, and forums.**

1. Implementation of international Conventions and Protocols as focal points:

- Convention on Biological Diversity (CBD).
- UN Convention to Combat Desertification (UNCCD)
- RAMSAR Convention on Wetlands of international importance
- Convention on International Trade in Endangered Species of wild Fauna & Flora (CITES)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS) and its MoU's on Siberian crane, Marine turtles, Raptors, etc.
- Nagoya Protocol on Access & Benefit Sharing (ABS)

2. Liaison with UN and other agencies & platforms:

- Asia-Pacific Forestry Commission (APFC)
- UN Forum on Forests (UNFF)
- UN-REDD (Reducing Emissions from Deforestation & forest Degradation) Program.
- IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services).
- Mangroves for the Future (MFF).
- COFO (FAO Committee on Forest).
- Traffic International (Wildlife).

- FAO's National Forest Programme Facility.
- Interpol Environmental Crime.
- South Asia Wildlife Enforcement Network (SAWEN).

3. Coordination with international NGO's (IUCN and Wetlands International).

4. Implementation of Pakistan Trade Control of Fauna and Flora Act, 2012.

5. Management of following endowment funds created with GEF grants:

i.   Fund for Protected Areas
ii.   Mountain Areas Conservation Fund

OIGF is focal point for following UN and regional as well as international organizations on the subjects related to forestry, wildlife, biodiversity etc.

➢ UNEP, UNDP, FAO, IUCN, WWF, ECO, SAARC

F. No. 3-3/2005 - AIGF
Government of Pakistan
Ministry of Climate Change
******

Islamabad the 10th September 2018

<u>NOTIFICATION</u>

No. F.3-3/2003-F-III   In Pursuance of approval National Forest Policy by the Council of Common Interest in the meeting held on 25.08.2017and as provided in para 11 (ii) of the policy, the Federal Forestry Board is reactivated with the following composition:

1.	Minister / Advisor on Climate Change	Chairman
2.	Secretary Ministry of Climate Change	Member
3.	Provincial Forest Ministers including GB & AJK	Member
4.	Representative of Secretary, Ministry of Planning, Development & Reforms,	Member
5.	Representative of Secretary, Ministry of Finance,	Member
6.	Representative of Secretary, Ministry of Railways,	Member
7.	Representative of Secretary, Ministry of Defence,	Member
8.	Representative of Ministry of Interior,	Member
9.	Mayor Islamabad,	Member
10.	Chairman, Islamabad Wildlife Management Board,	Member
11.	Inspector General of Forest, MOCC,	Member/Secretary

2.   **Terms of reference**. Terms of reference for the Federal Forestry Board shall be:

   a) Coordinate implementation of 'Ten Billion Trees Tsunami' Programme in the country.

   b) Review implementation on National Forest Policy and remove constraints that impede progress in realizing policy objectives.

   c) Identify sources of financial support and harness them to ensure availability of funding for development programmes in Forestry Sector.

   d) Encourage Urban Forestry to mitigate climatic effects in urban areas.

   e) Propose measures and develop plans for improvement of Forestry Sector for sustained increase in forest cover.

f) Review legislation to facilitate preparation of comprehensive reforms suited for sustainable management of the Forestry Sector resources.

g) Create committees necessary for sustained development and management of forest, watershed, rangeland, and wildlife resources, which will analyze trends in marketing of forest produce, pricing, human resource development, research, and development of technologies.

h) Approve Criteria and Indicators (C&I) for Monitoring and Evaluation (M&E) of forestry sector, management plans, programme, and projects.

3. The Board shall meet at least twice a year.

-do-
(Mohammad Salman)
Joint Secretary (Admn)

The Manager
Printing Corporation
Islamabad

Copy to:

1. Minister/ Adviser on Climate Change, Government of Pakistan, Islamabad
2. Secretary to Ministry of Climate Change, Government of Pakistan, Islamabad
3. Provincial Forest Ministers of Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit-Baltistan and AJK.
4. Representative of Secretary, Ministry of Planning, Development and Reforms, Government of Pakistan, Islamabad
5. Representative of Secretary, Ministry of Finance, Government of Pakistan, Islamabad
6. Representative of Secretary, Ministry of Railways, Government of Pakistan, Islamabad
7. Representative of Secretary, Ministry of Defence, Government of Pakistan, Islamabad
8. Representative of Secretary, Ministry of Interior, Government of Pakistan, Islamabad
9. Mayor Islamabad, Islamabad Capitol Territory (ICT).
10. Chairman, Islamabad Wildlife Management Board.
11. Inspector General of Forests, Ministry of Climate Change, Government of Pakistan, Islamabad.

FORESTRY SYSTEMS IN PAKISTAN

**ASSESSMENT OF FOREST TECHNICAL
AND EXTENSION SYSTEM TO ENHANCE
INSTITUTIONAL COMPETENCE – PAKISTAN**

REDD+
Pakistan