

SCIENTIFIC FOREST MANAGEMENT IN KHYBER PAKHTUNKHWA (KP)

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ABSTRACT

Forest has the 2nd largest land use cover after Agriculture. Out of total 7,448,636 ha area of KP agriculture is 2,224,739 ha, 29.86%, forest cover is 1,508,604 ha, 20.3%, alpine Pastures 649,721 ha, shrubs and bushes 533,523 ha, rangeland 794,471 ha, snow and glaciers 813,530 ha, horticulture is 15,519 ha, barren land (desert) is 646,305 ha, settlements is 110,536 ha, and water bodies is 151,688 ha (Land Cover Atlas of Pakistan PFI 2012). Forest is the main revenue source of provincial exchequer till imposition of ban on forest harvesting in 1993 forest was contributing 43% revenue to provincial exchequer. Forest has the tremendous potential and scope for employment in the fields of forest protection, harvesting, conversion, transportation, marketing of timber and reforestation operations.

Scientific forest management not only ensure sustainability of forests in terms of crop health, fulfillment of silvicultural requirements at different ages and stages of growth of valuable forest species but contribute to the national cause by equitable resource production adding to financial, social, economical and even law and order aspects of the society. The scientific management of forests has been evaluated against the existing ban on forest management and it has been concluded that scientific management is the remedy to resolve the issues associated with the forest crops, products, produce, disputes and resources in Pakistan.

INTRODUCTION

In Khyber Pakhtunkhwa province all the High Hills Forest are of natural origin, Canal, Roadside and Railway track plantations came under Forest management plans since 1960 for scientific management on the basis of sustainable yield. The major two canals of the province, i.e. Lower Swat and Upper Swat Canals were constructed in 1903 and 1935 respectively. The Shisham plantation was carried out on the Lower Swat Canal in 1905-1910 while the plantation on Upper Swat Canal was completed during 1935-1945. The Shisham plantation on the railway lines was carried out during 1903 to 1910. The high hill forests remained major source for supply of slippers in construction of the railway lines since 1885. Deodar was suitable timber for the purpose and despite tremendous utilization of forests during the spreading of the railway lines in the era of industrial revolution, the forest being renewable resource did not suffer severely. The formal Management Plans were prepared for the high hill Forests in Malakand Division during 1927 while for Canal and Railway line

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plantations during 1960-65 which prescribed appropriate silvicultural treatment of the forests including thinning in the pole crops, removal of “dead dying and diseased” trees for better health of the forests in sub-mature and mature stages and commercial yield on the basis of annual growth of the forests. The Management plans prescribed the economic diameter at breast height (DBH) for harvesting of the forests depending on species and site quality. Economic diameter on the basis of timber quality, growth trend and maturity for various species has been prescribed. Thus for Chir pine it is 24 inch, for Kail (blue pine) 28 inch and for Deodar 32 inch has been fixed as economic DBH and 60 years was fixed as the economic age for quality timber production of Shisham. The working plans prescribe various activities in various compartments which are supported by respective history files comprising of about 13 different forms maintained for respective cultural activities carried out in corresponding compartment during the plan period. The Form No.1 of the compartment history file contains species wise total growing stock in the compartment assessed by the working plan officer on the basis of forest inventory. The rest of the Forms are maintained by the Block Officer/Range Officer and provide the detail of cultural activities carried out in the forest compartment at various stages during the plan period. There are separate forms provided in the compartment history file for recording the details of the activities which include Main commercial felling, Thinning, Removal of Debris i.e. dead dying and diseased trees, Fire Hazards, Free granted trees, Forest Damage and Plantations carried out in the compartment. But unfortunately after imposition of ban in 1993, these activities are not carried out in the forests, resultantly all the forms of the compartment history files remain blank and untouched during the entire plan period of 10 to 15 years.

One of the major objectives of the Forest management, emphasized upon all the forestry professionals during their respective trainings of various ranks, from Forest Guard to Chief Conservator of Forests is “Continuous and sustainable supply of quality timber and other Forest Produce at the optimum level and to increase the growth rate/productivity of the forests by bringing them to normality”. The degradation of High Hill Forests since 1980 and the deforestation (removal of Shisham) of the canals, Railways and Road side started in 1997 and reached its climax in 2012. Almost all Shisham trees on Canal, Roads and Railway lines are dry whereas the High Hill Forests are either grave yards of stumps (Usheri Compartment No.1 etc.) or majority standing trees are dry/diseased and bad shaped (Panjkora Compartment No.154, Malkandi Reserved Forest Compartment No.13 and Ashrait Compartment No.8 etc). The non-repairable loss to High Hill Forests is on the rise with each passing day because only few species and that too take centuries to reach maturity, can grow in such areas based on special locality and climatic factors.

Possible Ways for Management/Dealing the Forest

a. Non scientific Forest Management

i) Dealing the Forest as unlimited resource without any management

This was the way of treatment of the forests in the pre historic era. Forests were considered as enemies and were cut and burnt for various purposes. This is neither advisable nor affordable, being renewable natural resource. Such treatment of the forests can be termed as foolish and madman thought.

ii) National Parks Approach/ Imposition of Complete Ban

Completely opposite approach towards the Forest resources as compared to the one mentioned above. This type of management system is not beneficial for survival of the plant species and communities growing in a forest as it facilitates the universal process of ecological succession. An example is Panjkora Compartment No154 Badgoy in Dir Kohistan where the Kail is being replaced by Fir crop. In such system of complete ban, Chir forests will create better environment for its climax plant community dominated by *Quercus* spp, while Kail forests will be replaced by their climax plant community dominated by Fir. Similarly the perfect protection and no disturbance of Fir forests will favor its climax plant species *Taxus bacata* (Barmi) as visible in Malkandi Compartment No.11.

iii) Removal of Dry, Windfall, Diseased Trees and Thinning in Pole Crop

This is the conservation of forest at a static position. In this system the forest do not undergo the succession process and the existing species in the forest remain conserved. Removal of dry and wind fall trees from the forest reduce the chances of disease outbreak in the forest crop and cause soil disturbance leading to chances for regeneration. Being obtained from dead and dry trees, the timber production remains of poor quality. This type of forest management can be termed conservation of forests as the species composition remain conserved and there are little chances for succession. Based on prescriptions of the Management Plan, this kind of dealing with forests remained on papers till 1976. The contractors preferred to cut healthy trees avoiding the dead dying and diseased trees therefore the contractor system was replaced by the FDC. The petty contractors of FDC overpowered the system and the role of FDC has remained no more than middle man. On imposition of ban on all types of forest harvesting since 1993 and introduction of dry and windfall policy 2004, the job has been tasked to the FDC who executes the assignment through contractor preferring to cut the green trees resulting increase in number of dry

and diseased trees and reduction in the healthy trees in the forests where policy is implemented. The commercial removal of dry and wind fall trees through forest/ FDC contractor, who in most of the cases also hold the title of royalty purchaser, cannot be termed a wise decision.

b. Scientific Management of Forests

The prime objective of Forest Management memorized to all the forestry professionals during their respective trainings right from Forest Guard to the Chief Conservator of Forests is "Continuous and sustainable supply of timber and other Forest Produce at the optimum level and to increase the growth rate/productivity of the forests by bringing them to normality".

The Forest Guard and Foresters at the Forest School Thai study and get practical training in various forestry subjects including Silviculture (Nursery raising technique, Plantations techniques, Thinning in the forest, Claiming i.e. removal of dead dying and diseased plants and trees, Pruning and marking of trees for commercial harvesting), Mensuration (measurement of trees, Logs., Scants) Forest Utilization, Forest Engineering, Entomology, Pathology, soil science, Forest Engineering and Forest Law etc. While almost the same training of a higher level is imparted to the RFO and above officers of Forest Department in the Pakistan Forest Institute Peshawar.

Utility of the training of all the tiers of the department is restricted to one aspect, i.e. implementation of Forest Law. The factual aspect of their training in law is restricted to the theory part only i.e. study of the Forest Act and old and redundant national and international Forest Policies which have no role in practical training for overpowering and arrest of the forest offender. In the field there is no partial utilization of Silviculture (Thinning, cleaning, Commercial Marking, Removal of Debris, Pruning), Forest extraction, and Forest Utilization in any Forest Division of Khyber Pakhtunkhwa since imposition of ban. The forests in Khyber Pakhtunkhwa have never been managed scientifically the following few example will be sufficient to prove the need of scientific management.

The example of Kalam Compartment No. 53 Madany Forest is situated on the north east of Kalam Town having area of 305 Acres. The south western one third area of this compartment along Kalam Matalthan Road is thick sub-mature and pole deodar crop as there is no thinning operation carried out in the crop therefore algae is growing on the branches and soon the crop will be adversely affected and will lead to succession and will change to Kail forest, similarly the one third North Eastern portion of this Compartment close to Banr Forest Rest House the crop is over mature deodar attacked by red fungal disease on their stems the situation is further aggravated here as no regeneration is available in this portion and deodar forest is leading to succession by taking over the area by

Quercus ilex (oak). Similarly the North western Portion close to Ashoran village has been cut during 1988-89 as a result of training the trained forest workers by KIDP. This area has very good regeneration where the over mature seed bearers particularly Kail has developed disease and need removal least will be detrimental to the young crop.

Panj Kora Compartment No.154 Badgoai Forest was perfected due to its inaccessibility / situated far from habitation and other many reasons the kail species in the compartment has developed disease and the crop composition is changing to Fir Forests. Similar is the situation in Kaghan the Malkandi Compartment No.11, 12 and 13 where during 1985-90 group felling has been done has good pole crop and is of dire need of thinning while the areas which were due for felling but due to ban on harvesting in 1993 remained untouched are mostly dry and diseased stands in the same compartment and the Taxis Bacata is dominating the crop composition.

Stimulus and hidden objective behind Imposition of Ban on Forest Harvesting in 199

It is interesting to note that during Russian invasion of Afghanistan, the western nations not only supported Pakistani economy through cash flow but also encouraged the exploration of natural resources of Pakistan particularly Khyber Pakhtunkhwa. Majority of the western projects helped in improving the Forest harvesting Machinery such as Skyline, Cable Crane, Chain Saw and Log loader and also trained the Forest workers. German funded Kaghan Intensive Forest Management Project (1980- 1992) and Swiss funded Kalam Integrated Development Project (KIDP 1982-1992) are worth mentioning. Only the KIDP trained more than 2000 forest workers in felling and conversion of trees and provided them the necessary kits.

This was the misfortune of the people of KP that after the Russian defeat in Afghanistan during 1988 the NGOs funded by the western allies of Pakistan in the Afghan Jihad were tasked for economic debacle of Pakistan as a punishment for its nuclear technology developed during Afghan Jihad. These for economic debacle of Pakistan and creation of market for imported timber from the Western Industrialized nations i.e. Germany, Switzerland, Brazil, USA etc on unscientific arguments articulated the natural phenomena of 1992 floods to the forest cutting. And started promoting the non-practical and dubious concepts of Carbon Sequestration, REDD+ and sweet coated poisonous concepts of National Parks creation against development activities. On the strength of their print and electronic media campaign meant for fulfillment of their masters objectives of economic debacle of Pakistan in general and PK in particular succeeded in the imposition of ban on scientific forest management in the guise of ban on forest cutting in 1993. Securing the market for imported timber to the extent that during

2016-17 more than 500000 cft imported timber from Brazil, Germany, Russia and Malasia came to forest rich area of Malakand Forest Region having more than 27% area under Forest Cover.

Effect of Ban on Harvesting of trees

a. High Hill Forests

Ban on forest harvesting destroyed the high hill forests, the worse and quick was the reaction of the people of Indus Kohistan, who started ruthless cutting just next day on the imposition of ban as evident from the large scale cutting of forests to the tune of 5,000,000 (Five millions) Cft during 1993-1997. For extraction of the ruthlessly and illegally cut timber of Kohistan, the provincial government had the only choice to promulgate amnesty policy in 1997-98 and the addiction to amnesty policy destroyed the forest wealth of Kohistan till its culmination and restoration of scientific management in 2015.

The impact of ban on forest harvesting in Malakand division was shifted to Kunar province of Afghanistan due to conducive environment created by the then Taliban Government initially. The excessive Afghan timber resulted in smuggling of timber to the province and other areas of Pakistan via different routes including Shahi pass in Dir upper, Ghakhy in Bajawar Agency and Nawapass etc. till 1996. Since then, the provincial government promulgated Afghan timber policy and favored few selected persons for transportation of Afghan smuggled timber from Benschahi to down areas of the country on payment of duty. After culmination of suitable forests for cutting in Kunar Afghanistan in May 2004, the timber mafia focused on destruction of strategically important Forests of Arandu, Domal Nisar and Korai in Chitral district and the practice continued till March 2013. Destruction of forests in Malam Jabba, Miandam and Matta areas of Swat District; and Usherai, Nehag Dara, Noor Khel Dara and Dok Dara of upper Dir District are the result of the consolidated efforts of timber mafia during this period. Thus the ban on Forest Management Plans resulted in a gigantic outlaw activity by powerful mafia having roots in all state institutions such as Legislature, Judiciary, Police, Forest Department and District administration etc. Ban on scientific Management of Forests inflicted severe blow to the peace of the area and fueled militancy in Swat during 2005-09 as lawlessness was favorable environment for illegal forest cutting and involvement of timber mafia in supporting militancy in Swat cannot be ruled out.

The ban on high hill forests cutting blocked all legal means for fulfillment of needs for procurement of timber as well as threatened the very existence of people residing in and around the high hill forests. The Forest operations under the provisions of approved Management Plans were providing business and job

opportunities to the local and provincial citizens through forest contracts and works relating to felling, conversion, transportation and utilization of timber.

The complete official and legal ban on Forest harvesting remained from 1993 to March 2015 with fortunate relaxation of one year as a result of the visit of the then Governor, Lt. Gen. Iftikhar Hussain for inauguration of Lawari tunnel project in Upper Dir district in 2002. The decision was based on his personal observation about the negative implications of the ban; when he saw disease in the forest crop resulted due to over-maturity at Jarjori Forest (west of Lawari tunnel). Which was followed by Dry and Wind fall policy of the MMA government continued in the ANP government of KP till its culmination in 2015. Though the dry and windfall policy started with positive intentions with a view to compensate the forest concessionists and also to meet the timber requirements of the country through legal ways. But involvement of the echelons having vested interest in the timber business, the policy proved escape-goat for the influential timber mafia and resulted in forest destruction. It is worth mentioning that except deodar, all dry standing tree of conifers, such as Kail, Fir and spruce, etc. when cut down, break into countless pieces before reaching the ground and worth almost zero timber value however the wind fall trees of Kail and Fir have some timber value. The policy was misused by cutting the green trees in the guise of dry and wind-fallen trees by the work contractors who in most of the cases were the royalty purchasers. Thus the dry trees have increased in the forests where harvesting under the Dry Windfall Policy has been carried out.

b. Ban on Cutting of Shisham from Canals and Roads Side

In 1984, the then Governor imposed ban on cutting of all types of Shisham trees including dry and diseased trees; in exceptional cases i.e. widening of roads or hazardous dry trees, cutting was subjected to the approval of the Governor. This ban stopped the silvicultural activities i.e. thinning, tending and removal of the dead dying and diseased Shisham trees from the plantations which lead to catastrophic diseases in Shisham plantation and only dry Shisham trees along Canal sides in Mardan, Swabi, Charsadda, Nowshera, Haripur and Peshawar districts are available waiting for approval to be removed.

Findings and Conclusions

- The ban on forest has resulted gangs of timber smugglers grown stronger than the government departments and institutions and have destroyed the forests as evident from Tarnavoi Forests of Tandyani Forest Sub-Division. This ban prepared the playing ground for smugglers and timber mafia.
- The activities of the timber mafia are halted and came to stands still in recent past since December 2013. But this is not the situation of

satisfaction rather this halting of the forest damage has provided opportunity to the dedicated functionaries of the Forest Department to devise strategies for achievement of the prime objective of forest management they have learnt and memorized during their training, least the timber mafia will re-enter with more power, strength and new strategies for their ulterior motives.

- Removal of dry, windfall, diseased trees and thinning operation in the pole crop are important silvicultural treatments of the forests. Therefore, all the forest professionals (RFO to CCF) and para professionals (FG, to Dy Ranger) are specifically trained for it.

Recommendations

- i) There is dire need of intensive management of more than sufficient forest resource of KP for ensuring respectable employment opportunities for poor population and discouraging the goodwill present in the people of Khyber Pakhtunkhwa for timber smugglers and timber mafia.
- ii) Removal of dry windfall and disease trees is a cultural operation and must be ensured through the forest guard. The Compartment History File which are meant for decoration of cupboards in offices of the DFO and SDFO should be the responsibility of the concerned Beat Guard and Block Officer to keep all forms up dated.
- iii) The Forest Guard and Forester should be held responsible for not removing and transporting Dry and Windfall trees to the Range/ SDFO office immediately it occurs and ensure necessary entries in the relevant forms of respective Compartment History File.
- iv) The damage report is chalked by the Frost Guard against the forest offender most often involved in cutting of green trees. It is pertinent to note that removal of a green tree from the forest is loss of a tree but existence of a dry standing or diseased tree in the forest is a continuous threat to the surrounding trees and in some cases to the entire forests, thus presence of dry and diseased tree is loss of the forest. The forest officers generally check the Guard Book and Stumps of the cut trees but as per silvicultural principle the dry and windfall checking is more important hence it should be made mandatory to issue Guard Book and Form A to Forest Guard while Form No.5 and Compartment History File to the Block

Officer. On cutting of the illicit trees, the Forest Guard should be held responsible while for not extracting dry and wind fallen trees; and other cultural operations, the Block Officer/ Forester , RFO/SDFO should be put to task.

- v) The timber of the dry and windfall trees brought to Range office should be put to local auction by the RFO/ SDFO twice a month and may be restricted to the local consumption/ use only. The RFO/SDFO may be authorized to allow transportation in respective Jurisdiction through Rahdari. In case the timber is not sold then it should be transported to the Divisional office and the DFO will offer it through auction for the local consumption in limits of his Division in two consecutive auctions. Even then if it was not sold, it will be presumed that local need is fulfilled and the timber will be put for General Auction and the successful bidder will be allowed to transport the timber anywhere in the country. The net amount realized from sale proceed of the auction at any place i.e. Range Office auction and Divisional Office auction will be apportioned between the Government and the concessionists if any at the already approved ratio and procedure. The FDF may be used for conversion, extraction and transportation of timber obtained from dead, dry, diseased and wind fall trees and such spending should be deducted from the amount realized from the sale proceed before apportionment between the concessionists and the government. This arrangement will meet the need of local construction, such as houses, hotels, shops etc.
- vi) The REDD+ study of PFI and the working plan inventory carried out by FMC after lifting of ban in 2015 reveal that single tree selection system of Forest Management implemented during 1978- 1993 has badly failed in the increased in annual yield and restocking (regeneration) of Forest of Chitral, Alpuri, Swat, Siran while the group selection system implemented in Kaghan and Klam during 1978 to 1993 gives prominent results and has significantly increased stocking and annual yield of these Forests. Therefore Group Selection system is recommended for scientific forest management of the high hill forest of KP. For commercial harvesting and quality timber supply to the market from the harvesting of the mature plus trees marked on silvicultural suitability in the shortest possible time.
- vii) The transfers of Forest Guards, Foresters and RFO/SDFOs should be discouraged rather disciplinary action should be taken against the defaulting officers/officials. Similarly appointment of

lower Ranks Officials on higher posts (particularly on the posts of DFOs and SDFOs) on the basis of political liking and disliking may be dealt as corruption.

- viii) To ensure authentic, quick and reliable reporting, single post of DFO in a district may be provided similarly the three pronged split command at the provincial level of three regional Chief Conservators of Forest should be Changed to unity of command and direction in the shape of one Chief Conservator of Forests KP. This reduces the overhead expenditures and result in availability of budget for increasing the field staff particularly Forest Guards and Foresters.

Effects/ outcomes of the recommendations

- a. The Economic growth of the people of KP will increase.
- b. Spread of diseases will be reduced.
- c. Productivity of forests will be increased.
- d. Carbon Sequestration and environmental values will be enhanced.
- e. The illegal timber trafficking and the need of Forest Check Posts will be reduced.
- f. The chances of forest fire will be reduced.
- g. Employment opportunities will be increased.
- h. As the needs of locals will be fulfilled through legal ways and they will not be at the mercy of timber smuggler for fulfillment of their timber requirement, their sympathies with the timber smugglers will be reduced and the law abiding tendency in the society will improve.
- i. There will be significant increase in the government revenue.
- j. Local support for the forest department will be improved and mutual trust between the department and local communities will improve the conditions of forest.