

**PROCEEDINGS OF THE
INTERNATIONAL SEMINAR ON
PAKISTAN FOREST POLICY
MARCH 6-8, 1989
KARACHI, PAKISTAN**



**ORGANIZED BY THE
OFFICE OF THE INSPECTOR GENERAL OF FORESTS
MINISTRY OF FOOD, AGRICULTURE AND COOPERATIVES
GOVERNMENT OF PAKISTAN AND
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
ISLAMABAD**

COVER PHOTO LEGEND

Date: September 1988.

Location: East bank of Swat river, between Bahrain and Kalam, upper Swat valley.

This photograph depicts a shrinking forest which is a common phenomenon in the mountains. The scattered deodar trees along the river bank indicate that the forest once extended to the valley bottom but due to the increase in human and cattle populations, some areas have been cleared for cultivation whereas others have been grazed and browsed to the exclusion of tree growth.

Even in the existing situation, the trees have a significant role to play in different human-ecological zones. The three distinct zones shown in the photograph are:

1. Low zone of human settlement and cultivated fields;
2. Middle zone of forests for fuelwood and timber and grasslands for grazing and cutting of hay; and
3. High zone (glaciers) which is a source of water for the Low and Middle zones and also for the low lands in the plains.

These three zones are examples of the complex ecosystems associated with forest environments. It is important to fully understand the role that forests play in local, regional and national economies.

GOVERNMENT OF PAKISTAN
MINISTRY OF FOOD, AGRICULTURE AND
COOPERATIVES



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ACKNOWLEDGEMENTS

This seminar was sponsored by the Office of the Inspector General of Forests, Ministry of Food, Agriculture and Cooperatives, Government of Pakistan, and by the United States Agency for International Development. Technical assistance was provided by the Winrock International Institute for Agricultural Development. Local support in Karachi was provided by the Sindh Forest Department.

The management owes gratitude to all those who helped in organizing the seminar, who contributed to the success of the seminar, and who helped in bringing out the seminar's proceedings.

SPONSORS

PREFACE

Pakistan stands at a crossroads, with two choices before it. One leads to further degradation of its natural resources, disruption of its vital agricultural base, and declining supplies of timber, fuel, and fodder. The second choice leads to a more stable and productive use of natural resources, sustained agricultural production, and a plentiful supply of all tree products. Selecting the proper course is easy, walking down the path is difficult. It is my hope, and also my belief, that this seminar represents the first step down this hard but rewarding pathway to success.

It is, therefore, a pleasure and a privilege to present to you the seminar proceedings. The proceeding's identifies resource management issues and recommends actions which may be used to form the basis for a new National Forest Policy that is responsive to Pakistan's complex human and ecological environments.

If we succeed and Inshallah we will, it would be a big achievement and a great tribute to those who helped us in this task of national importance. A dynamic forest policy is a first step towards achieving the greater objectives of environmental stability; realization of domestic and raw-material needs; prevention of floods and protection of irrigation channels; and conservation and preservation of catchment areas in the north. These are our national needs and we are collectively striving to realize them.



15.8.89

Abeer Ullah Jan
Inspector General of Forests

Dated 15th August, 1989

PHOTO OF PARTICIPANTS

OPENING CEREMONY



From Left to Right

Front Row

Abeed Ullah Jan, R.E. Fort, Syed Abdullah Shah, Sardar M. Habib Khan, W.A. Kernani

2nd Row

A.R. Khan, H.A. Qureshi, Khan Mohammad, G. Yasin, M. Usman, M.I. Sheikh

3rd Row

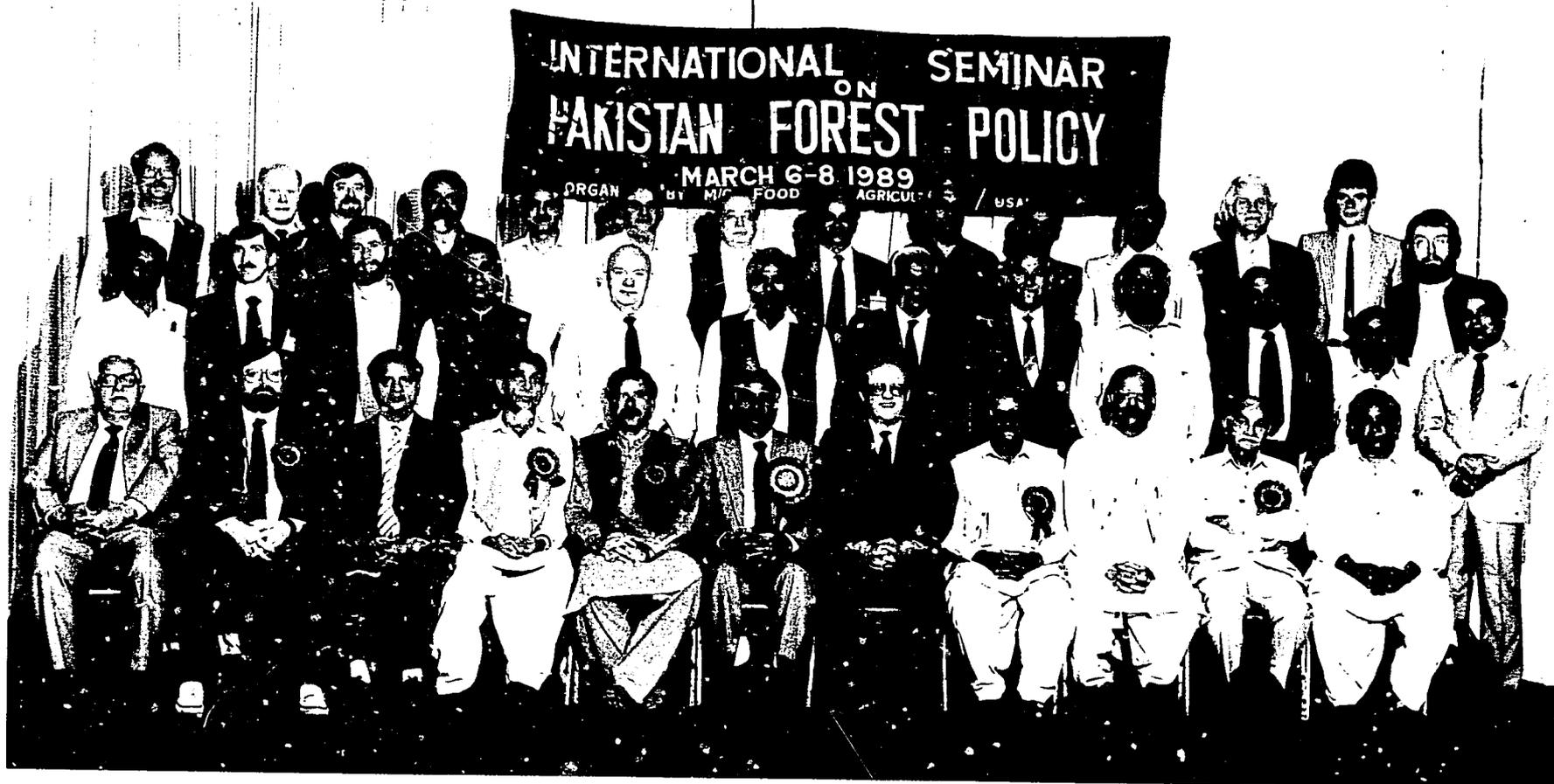
Bahauddin Sirhandi, A. Saeed, Taj M. Naeem, M. Sadiq, A. Masrur, A.S. Bokhari

4th Row

*Awal Sher Khan, Rafiq Ahmed, M. Afzal, Saleem Maqsood, T.A. Ansari, Kh. Hameed Ullah, R.S. Gujral,
Fehmida*

PHOTO OF PARTICIPANTS

CLOSING CEREMONY



From Left to Right

Sitting

A.S. Bokhari, A.L. Merkel, Ahmed Saeed, U.A.G. Isani, Awal Sher Khan, Rao Sikandar Iqbal, R.E. Fort, Sarlar M. Habib Khan, Abeer Ullah Jan, W.A. Kermani, S.K. Khanzada

1st Row

M. Khan, P. Durst, C. Duerr, Yar M. Khan, G. Leonard, M. Rafiq, H.A. Qureshi, A.R. Khan, K.M. Siddiqui, Nazar Malik, T.A. Ansari, R.S. Gujral

2nd Row

Nasrullah Khan, C.R. Hatch, M. Berg, M. Afzal, B.A. Wani, M. Usman, G. Yasin, Kh. Hameed Ullah, M.I. Sheikh, Bahauddin Sirhandi, M. Ashraf, Dr. Pringle, M. Kleine, M.R. Dove

PURPOSE OF THE SEMINAR

This seminar was designed to be a turning point in Pakistan's strategy to attain sustainable development in the field of forestry. The need and importance of a dynamic forest policy for this purpose is obvious. Policy statements are an essential prerequisite for identifying problems, setting priorities, and determining goals. They allow an organization to develop strategies and secure financial assistance and political support that provides continuity of action for producing goods and services required by the nation.

The first forest policy directive relevant to Pakistan was circulated in a Government of India Memorandum dated 3 August 1855. It dealt with the protection and extraction of teak timber. A more comprehensive forest policy statement was contained in Government of India Circular No. 22-F, dated 19 October 1894. It provided guidelines on the basic principles associated with the rights and privileges of people adjacent to forest lands. Emphasis was placed on managing forests to provide for timber production, watershed protection and maintenance of their productive capacity.

The more recent basis of Pakistan forest policy began with the Indian Forest Act of 1927 and the North West Frontier Province Hazara Forest Act of 1936. These Forest Acts and the *raison d'etre* of the Forest Departments, resulting from earlier directives, were responsible for the forest policy being predominantly concerned with protection of forests from illicit cutting.

On 12 November 1955, the Government of Pakistan issued a forest policy resolution which mandated that forestry programs have a high priority in national development plans. To implement the resolution, a forest service, staffed by trained personnel, was proposed. The resolution continued to stress regulation and management of forests to contribute to the country's economic development and to maintain the forest land's productive capacity.

In addition, the resolution proposed that:

1. Public support for forestry should be enlisted through education and extension.
2. Forests should be classified on the basis of their utility and objectives of management.
3. Forest area be increased by raising trees along canals, roads and railway tracks, on arable wastelands, and through farm forestry.

4. Forests should be managed under working plans to ensure sustained yield and regeneration of areas felled.
5. Forest research and education should be organized on proper lines.
6. Wildlife in forests should be afforded adequate protection and their habitats maintained.

On 20 June 1962, the Government of Pakistan issued policy directives on forestry, watershed management, range management and soil conservation. These directives expanded the 1955 forest policy resolution in the following ways:

Forestry:

1. Forest departments should increase the intensity of management by finding ways to reduce lengths of rotation, promptly regenerate felled areas and improve techniques for wood utilization.
2. Pilot afforestation projects should be started in low rainfall zones and on riverain lands.
3. Irrigated plantations could be raised primarily for producing industrial wood.
4. Pilot projects should be started to determine grazing capacities of forest lands for different ecological zones.

Watershed Management

Surveys of entire watersheds should be undertaken and programs devised which reduce human and livestock population pressures in the hill areas.

Range Management:

Programs be initiated to develop rangelands through private enterprise by allocating government land and providing credit facilities, access to water, technical know-how and other facilities and incentives.

Soil Conservation:

Programs be initiated in sub-mountainous regions to control soil erosion through terracing, check dams, technical know-how and other facilities and incentives.

On 24 February 1980, the Government of Pakistan announced a national agricultural policy which contained a section on forestry. In addition to policies contained in previous directives, it emphasized the planting of fast growing tree species on private lands, increased coordination between forestry and wood-based industries, and the creation and development of national parks for preserving a sample of each of the country's major ecosystems for public recreation and education.

The directives which have been issued to date show an evolution in Pakistan forest policy from regulation and protection to increased scientific management of forests and public participation in the establishment and raising of trees on private lands. This progression is highlighted by Abeer Ullah Jan and others (1989) in a detailed review and analysis of the 1955, 1962 and 1980 forest policy statements.

The major achievements resulting from the implementation of Pakistan's forest policies include the preparation of working plans, the classification of forests on the basis of their productivity, the raising of linear plantations along roads and canals, the introduction of fast growing species, improved forestry education and training at both the professional and technical levels, adaptive research, and similar applications of technology on the part of the Forest Departments. Aspects of forest policy demanding the peoples' cooperation and support, and participation by other government organizations, have been implemented less effectively.

In particular, the past forest policies have not been successful in bringing public and private forests under proper management. The classification of forests into productive and protective categories lacked quantifiable objectives and viable implementation strategies. The policies failed to provide the Forest Departments the organizational capabilities, and monitoring and evaluation systems they needed to fully implement the directives.

Priority financial allocations associated with the 1955 and 1962 policies did not materialize. Provisions in these policies that included shifting hill population from Murree and Hazara to colonized areas in the Sindh and the Punjab were impractical. The elimination of peoples' forest rights and concession resulted in the elimination of growing stock from forest areas.

Policies of 1955 and 1962 provided for 10 percent of the land and water in colonized areas to be reserved for raising irrigated plantations. In practice, only 4 percent of the area and water were actually provided for afforestation activities in the Thal, Tonsa, Guddu, and Kotri Barrage areas. Financial resources to carry out the management were insufficient. Consequently, areas allocated, particularly in the Sindh and the Punjab, are still without forest cover.

There is an increasing need to address the limitations and shortcomings of the current forest policies. The documents and recommendations reported in this proceedings will form the basis of a new national forest policy for Pakistan.

STRUCTURE OF THE SEMINAR

On March 6-8, 1989, the Inspector General of Forests hosted an international seminar in Karachi to discuss the elements of a new national forest policy for Pakistan. More than 60 senior government officials, representatives of private sector wood-based industries, and specialists in forest policy from international organizations attended the seminar. The seminar's detailed programme and a complete list of workshop participants is given in Appendices A and B, respectively.

The seminar's opening session consisted of introductory presentations by Dr. Raymond E. Fort, FAO Country Representative to Pakistan; Mr. Albert L. Merkel, USAID Forestry Advisor; Mr. Abeer Ullah Jan, Inspector General of Forests; and Mr. Syed Abdullah Shah, Speaker-Sindh Assembly. The addresses laid the foundation for the seminar's discussions.

The opening session was followed by a session in which technical papers were presented by Mr. George Leonard, USDA Forest Service; Mr. Mel Berg, USDI Bureau of Land Management; Mr. Christoph Duerr, Swiss Kalam Project; Dr. Michael Kleine, German GTZ/PFI Project; and Mr. R. S. Gujral, FAO, Bangkok. These papers, specially prepared for this seminar, focussed on forest policy issues faced in Pakistan and in other countries.

Based on the information contained in these presentations and on information contained in background papers prepared for the seminar (Appendix D), the remainder of the seminar was devoted to assessing Pakistan's current forestry policy and suggesting ways of improving it. For this purpose, the seminar participants were divided into five working groups, each concentrating on one of the following areas:

1. Social-Economic Conditions
2. Intersectorial Linkages
3. Forestry Related Legislation
4. Future Objectives and Direction
5. Financial and Political Support

Two distinguished workshop participants were asked to serve as chairman and rapporteur for each working group (Appendix C). Under their direction, each group was asked to:

1. List and prioritize the key issues associated with the Forest Departments' ability to carry out its responsibilities in Social Forestry, Commercial/Industrial Forestry, Watershed

Management, Wildlife and Natural Environment, Rangelands, and Intersectorial Collaboration.

2. Formulate policy recommendations to resolve each of the key issues that it identified.

The recommendations of the five working groups were presented in the closing session, as well as comments by Dr. Raymond E. Fort, FAO Country Representative; Mr. Albert L. Merkel, USAID Representative; Mr. Rao Sikander Iqbal, Minister of Food, Agriculture and Cooperatives; Sardar M. Habib Khan, Secretary of Forests (Rtd.), Azad Kashmir; and Mr. Abeed Ullah Jan, Inspector General of Forests. These concluding comments set the stage for the formulation and development of a comprehensive national forest policy to be considered and approved by the Government of Pakistan.

SEMINAR RECOMMENDATIONS FOR POLICY DEVELOPMENT

The most important recommendations of the five working groups are as follows:

Social-Economic Conditions:

1. Strengthen the capacity of staff to work with the public through greater emphasis on training in the social sciences, and through provision of better infrastructure and facilities.
2. Support private tree planting through development of interdisciplinary projects, development of markets, and support and development of rural institutions.
3. Strengthen public support for the Forest Departments management of production forests by developing wood-based industries in the proximate communities; and by making the highest priority of this management the satisfaction of local needs for fuel, timber, and fodder.

Intersectorial Linkages:

1. In order to manage watersheds on the most logical basis--by catchment--an inter-department coordinating group should be constituted within the Federal Ministry of Food, Agriculture, and Cooperatives.
2. In order to meet current demands and to plan to meet future demands, close linkages should be forged and maintained between the Forest Departments and all wood-based industries.
3. Advisory boards should be set up to convey the views and recommendations of the public to the government, and to carry out periodic reviews of policy implementation.

Forestry Related Legislation:

1. Review and modify, as needed, existing forestry related legislation, with emphasis on cooperation and education--not punishment--and on an elimination of improper use of the law.
2. Establish the statutory responsibility of the Forest Departments for management of forests, watersheds, rangelands and wildlife, as well as for social forestry on private lands.

3. Establish statutory recognition of the value of forests, watersheds, rangelands and wildlands in preserving flora and fauna; and establish a statutory basis for carrying out Pakistan's responsibilities under the various international conservation conventions that it has signed.

Future Objectives and Direction:

1. Reconstitute the Forest Departments as the Forest and Environment Departments.
2. Secure legislative approval for forestry policy in the federal and provincial assemblies.

Financial and Political Support:

1. Develop innovative funding mechanisms.
2. Promote recognition of the forestry sector's indirect contributions to the GNP.
3. Build financial support into forestry policy by promising concrete economic benefits, from forestry, to important segments of the public.
4. Establish an ongoing system for identifying, communicating with, and winning the backing of a popular support base for forestry policy.

OPENING PRESENTATION

By

Dr. Raymond E. Fort
FAO Country Representative

Honorable chief guest, Speaker-Sindh Assembly, Inspector General of Forests, distinguished guests and participants:

It is my pleasure to represent FAO and its Director General, Dr. Edouard Saouma, at this important Forestry Policy Seminar. FAO has long been associated with forestry development and policy. For example, the tropical forestry action plan is an experience evolved, widely accepted methodology in forestry.

During the coming days, experts in various specialties, within forestry and its related activities, will be imparting useful information. I speak from the experience of a broader perspective, where forestry is an integral part of the general area of agriculture; and within this context, it is my opinion that forestry has not received its due share of attention. Only recently have countries and policy makers acknowledged the critical role of forests in maintaining an environment in which people can live and agricultural production can take place.

Forestry has always been a sentinel, the unsung sentinel, guarding farmland and mountain slopes. However, for the past few centuries, with the emergence of "modern" agriculture, forests have often been classified as enemies of the people, to be ruthlessly destroyed. Heroes were made of those who could cut down trees fastest. Little attention was paid to the adverse effects of moving such large quantities of biomass from the environment. And now in more recent years, galloping increases in population has directed attention to increasing food production at any cost, and diverted attention from maintaining an adequate environmental balance.

Simply, modern governments cannot allow their people to starve. Before the green revolution, most increases in agricultural production took place by expanding area under cultivation. This inevitably led to a choice between cultivated land and forests--usually forests lost. As a result, large areas of the world have been denuded and now supply neither forests nor farmland. Mountains and hillsides have always been favored by people, preferred by humans for settlement, and have been under great pressure because of these population increases.

I speak from a bit of personal experience, I spent six years in Nepal, from 1966 to 1972, and I remember vividly flying over the forests, year by year, as the hills became denuded and the forests disappeared. First, when you flew over, you would look down at an area that you knew was solid forest, and you would see something of a difference, but you couldn't tell just what it was. Next year, when you looked down you could see the ground, but there would still be quite a bit of cover. The next year, about the third year, the original spot would look like a cankerous sore, because you would have some cultivated land inside this green mosaic, and some tall trees would remain, but much of the landscape was blotched with the few trees scattered, and cultivation would occupy most of the area. By the fourth year, perhaps only the tall heavy trees would stand, the big beautiful trees, and by the fifth year, even they would be gone--most of them cut and just burned. In the spring, when you flew over the Terai, you could hardly fly; in fact, some days we couldn't fly because the smoke would be so heavy from the burning of this wood--just to get it off the field, not to use it for anything, just to get it off so the areas could be cultivated. It was too heavy and too difficult to cut up and this particular wood was so heavy it wouldn't even float, so it was just burnt.

Forestry has also suffered at the hands of development planners. Development and politics cannot be separated, and too often politicians have needed to have quick and visible results. Trees take years to grow and forest management is a long-term process, but too often politicians have only been interested in a quick fix which enables them to show results such as increased production or increased export earnings, and often the trees were cut to provide this. Nor in this process has forestry received its proper share of development resources, and Pakistan is an example. Out of Pakistan's total development assistance, which averages over two billion dollars the last number of years, only about 1% has been devoted to forest development.

Although we are concerned with forest policy here, let us not forget that nearly 60% of the land in the Forest Departments' control is rangeland, and thus, forestry also becomes inevitably wound up with livestock. Policies developed will have a direct relationship with livestock caring capacity. Increasing reforestation on degraded, upland watersheds could reduce livestock caring capacity. Also, range needs specialists. These specialties may not be identical with those of forest management specialties. Part of the problem has been the lack of a coherent and comprehensive forestry development plan which would integrate the various factors, the various components, and establish a firm set of priorities.

Thus, I am pleased to see this seminar take place; it deals with an extremely important topic, "Forestry Policy." Without a well understood policy, it is difficult for both donors and the

Government of Pakistan to put together the appropriate kind of project which will help solve the development problems in the forestry sector. I, therefore, commend the organizers of this seminar, and I look forward to hearing the deliberations and reading the final recommendations. I especially want to thank our chief guest for taking from his valuable time to come; I was with him just last week, it is always a pleasure. I can assure you that your deliberations and recommendations will be considered important by FAO and others in the international community and will especially help guide FAO activities with regard to Pakistan for forestry development in the future. Pakistan Zindabad.

OPENING REMARKS

By

Albert L. Merkel
USAID Representative

Good morning ladies and gentlemen:

I would like to start off by commending the office of the Inspector General of Forests for all the work that they have done in the last three months to get this meeting organized and to get it in place, as well as thank the international representatives who took their time to come here. USAID has supported the Inspector General of Forests in the development of planning and policy activities for the last five years, and as we look back, we can see very much real progress.

A little bit about the role of policy connected with the role of management planning. Right now, Pakistan is going through a number of different exercises, including the development of a national forest management plan and the development of an environmental action plan. Forest policy is the key to providing guidance to those planning activities. Through that policy Pakistan can, within her own system, identify what is the priority areas of development, what are the special concerns of the government of Pakistan, and what are the special concerns of the people of Pakistan.

I see we have some representatives of the non-government sectors here today; that is very important. The development of policy in conjunction with the people who are not part of the government is one of the major lessons that people throughout the World have learned in the last thirty years. Certainly in the United States, policy is no longer developed without extensive input from the public sector.

With that, I would like to say that it is very pleasant and pleasing for me to see all of you here, to see many of the old faces that I haven't seen for many years, and to see some other people here that are important. Thank you very much.

KEYNOTE ADDRESS

By

Mr. Abeer Ullah Jan
Inspector General of Forests

"A REVIEW OF THE FOREST POLICY IN PAKISTAN--ITS FUTURE NEEDS AND FACTORS CONNECTED WITH IT"

In the name of Allah, the most beneficial and merciful.

Honorable Speaker-Sindh Assembly, Syed Abdullah Shah Sahib; FAO Country Representative Dr. Raymond E. Fort; Mr. Merkel, Representative of USAID; learned foreign delegates; serving and retired colleagues; ladies and gentlemen:

It is a matter of great pleasure for me to welcome you all to this seminar on forest policy which is being attended by the celebrities and stalwarts of the forest service, both serving and retired, local and from abroad. With your active participation and positive contribution, I hope this seminar will prove as a turning point for attaining sustainable development in the field of forestry.

The need and importance of a dynamic forest policy for sustainable development is obvious. Policy statement is an essential prerequisite for identifying problems, fixing priorities, determining goals, devising strategies, and securing financial assistance and political commitment, thereby ensuring continuity of action for producing goods and services aspired by the nation. Forest policies under review, despite their bold initiative for bringing public and private forests under proper management and their classification into productive and protective forests, were deficient in quantifiable objectives and viable implementation strategies, especially in respect of enhancing organizational capabilities and monitoring and evaluation systems.

Likewise, the mechanism for predicting changes in demand and supply pattern could neither be clearly foreseen nor adequately installed. Consequently, some commodities have been produced in large quantities, like poplars in Peshawar and Mardan valleys, and other commodities were under-produced, like mulberry leaves for sericulture and mulberry timber for sport industry in Sialkot and other places. Major achievements of the previous policies included preparation of working plans, classification of forests on the basis of their productivity, raising linear plantation along roads and canals, introduction of fast growing species, forestry training

at M.Sc. and B.Sc. levels, adaptive research and similar measures requiring action by the Forest Departments alone. Those aspects of forest policy demanding the cooperation and support of people and participation by other government organizations could not be implemented.

Priority in financial allocation as contemplated in 1955 and 1962 policies did not come true. In fact, the development budget dropped from 0.8% in the first plan to 0.5% in the 6th plan. Certain provisions of the policies were wishful, rather impractical. They included shifting hill populations from Murree and Hazara to colonized areas in the Sindh and the Punjab; and requisition and liquidation of the peoples forest rights and concessions. Policies of 1955 and 1962 provided for 10% reservation of land and water in colony areas for raising irrigated plantation. But only 4% of area and water were actually provided in Thal, Tonsa, Guddu and Kotri Barrage areas. Even this area was not matched with funds for afforestation and consequently, many areas, particularly in the Sindh and the Punjab are still without tree cover.

With this brief review of the performance of the previous policies, I would now briefly mention some inadequacies in existing forest management in order to identify gaps that the new forest policy for Pakistan must consider:

Forest potential:

All forests in Pakistan are capable of producing much higher yields per unit area as compared to what is presently being harvested under our existing systems of management. Growth data have shown that coniferous forests are capable of producing 1.5 cubic meters per acre per annum, whereas only 0.5 cubic meters per acre per annum is presently being harvested. The same is true of irrigated plantation which can produce 4 cubic meters, as against the current harvest of only 1 cubic meters per acre per annum.

The Territorial Charges:

The existing forest administrative structure is primitive in scope and practice. The jurisdictional areas and workload of forest circles, forest divisions and other charges are large and it is not possible for the staff to perform functions other than those of a routine nature. The average territorial charge of a circle is more than one million acres, whereas it should be only 50,000 acres for efficient management. Unless the administrative and territorial charges are split up and reduced, the management will remain difficult and prototype.

Forest Development:

Four factors generally determine the contribution of a resource towards economic development. They are: knowledge of the resource; accessibility; demand and relative prices; and the level of technological know-how. All these conditions are extremely favorable and are conducive for embarking upon an ambitious program of forest development in Pakistan. Forest development activities can be made self-financing and surplus revenue can be generated for people and for the state three times above the present level of earning, if proper management packages are developed and subsequently applied.

Intensification of Forest Management:

Present level and intensity of forest management is very low, less than 30% of the total area under trees is subjected to commercial felling and the balance 70% area is left untreated and unmanaged.

Even the managed forests are worked on single tree selection type of felling system in which one tree out of 3-5 trees of exploitable diameter are felled and sold. Thus, the full sustainable potential of the site is not exploited. New areas are not brought under forest and the existing ones are being depleted through natural death and decay. Thus, the nation suffers financial losses as well as losses of valuable resource. Furthermore, the forest owners and the royalty shareholders constantly agitate against low level of exploitation. Consequently, the forest owners are disillusioned. Industry is running much below its normal capacity. Economic activities relating to forests are at low key, and the public exchequer is subjected to huge losses due to death and decay of the valuable trees. The only benefit of this type of management is an emotional guarantee and a mental satisfaction against the fear of denudation and depletion. It is notational because the forest resource is even otherwise being depleted on account of old age and dependence on natural regeneration which is irregular and unreliable.

An example from the Murree forests would illustrate this point. The data of three successive working plans have shown that in 1970, in this particular forest, the growing stock was 5.4 million cubic feet, which had dropped to 2.7 million cubic feet in 1985. In the last 15 years there was almost a 50% reduction in the volume and a 40% reduction in the number of trees. This happened in spite of the fact that all commercial fellings have been stopped in the area for the last 10 years.

Communication Network:

The management of forests at optimum intensity requires a road density of 10 meters per hectare for extraction of timber, regeneration of harvested areas, timely execution of cultural operations, and protection against fire and other hazards to which forests in general, and planted areas in particular, are prone. The data collected from selected areas in Hazara, Chitral, Azad Kashmir, Rawalpindi and Murree hills reveal that the existing road density is only 2.9 meters per hectare. There is a need for improvement of communication for extraction of timber in log form instead of sleepers. This will reduce the extraction cost by 50% and increase the yield by 100% without any change in the system of management.

Legislation:

The Forest Act of 1927 is the oldest and the so-called most comprehensive piece of legislation in Pakistan. It extends to all parts of Pakistan except Hazara, Malakand, Azad Kashmir, and the Northern areas where 80% of the forest resource of the country is located. The forests are dense, valuable and productive. Forest laws of lesser importance and with inadequate provisions of punishment are applicable in Hazara. Forests in Malakand are covered by only 5 sections, from 29 to 34, of the Forest Act of 1927. The forests in Azad Kashmir have as an umbrella the Forest Regulation of 1930 which is sketchy. Northern areas have no effective forest acts. Even in the Forest Act of 1927, there is no provision for recovery of value or compensation for the damage done to Gujara forests owned by the people or protected forests owned by the State. The relevant provision of this act applicable to Gujara forests and protected forests are, and I quote, "In case of offenses specified in Section 33, the offender shall be punishable with imprisonment for a term which may extend to six months or a fine which may extend to 500 rupees or both." This shows that there is no provision for recovery of the value of the forest produce from the offenders. Illicit cutting of one tree means a loss of ten thousand rupees to the private owner or to the State, as the case may be. This loss is not recovered from the offender. In case of reserve forests, the provision of law is a little better but it still is not adequate and I quote, "In case of violation of the provision of Section 26, the offender shall be punishable with imprisonment for a term which may extend to six months or a fine which may extend to 500 rupees or with both in addition to such compensation for the damage done to forests as the convicting court may direct to be paid." Here, the recovery of compensation is not mandatory; it is discretionary and it depends upon the convicting court.

These lenient provisions of the law are instrumental in forest tree cutting, further helped by the sky high prices of wood, easy access to market, and remote chances of being caught. Even if an

offender is caught, the possibility is that he would be acquitted or made to pay a nominal fine of Rs. 50, or so.

Alternate Energy Sources:

The population of Hazara, Malakand, Azad Kashmir, Northern Area and Murree Hills is more than 10 million. The area receives heavy snow in winter and the people are compelled to burn firewood for 16 hours a day in winter and 8 hours a day in summer for cooking and heating. According to conservative estimates, 34 million metric tons of firewood is consumed every year, which is worth 23 thousand million rupees if assessed as firewood and 92 thousand million rupees if assessed as timber. This is a huge financial loss to the exchequer in terms of money and in terms of forest resource. But this cannot be avoided unless alternate sources of energy are provided to the people in the region. Whatever the punishment may be which, of course, is very little, the trees would still be cut. A rustic mountain dweller once remarked, and I quote, "If the trees were made of gold and they were protected by an armed guard, even then the people would be compelled to cut trees for cooking and heating." This is true. Unless Sui gas, LPG and other sources of energy are extended to the big cities like Muzaffarabad, Murree, Kahuta, Abbottabad, Mansehra, and Mingora, there is little hope for protection and conservation of forest resources in the hills.

The need is justified even from the economic point of view. One year's loss of 92 thousand million rupees through use of valuable coniferous wood as fuelwood is much more than the total expenditure to be incurred on the extension of sui gas to the hill districts that I have just mentioned.

Riverine Forests:

Riverine forests have suffered due to impoundment of river water in the big reservoirs and their obstruction for irrigation. The forest resource being depleted due to flooding, now requires change in its policy and management.

Irrigated Plantation:

Irrigation without proper drainage has resulted in water logging, salinity and sodicity menaces in the flood plains. Irrigated plantations are no exception, especially in areas in the plantation which did not have adequate vegetative cover. Policy guidelines on these issues are also essential.

These are a few examples of the inadequacies of the present system of forest management. There are others as well, but I won't

mention them due to shortage of time. I shall, however, mention a few other important issues which merit concentration in this seminar. About three-fourths of Pakistan's total area of 87.8 million hectares comprising mountains, watersheds and arid tracts, is uncultivable. In many significant ways, the productivity of cultivated areas and the development of the people living there depends, to a large extent, on the judicious use of uncultivable areas. There is a need to enlarge the scope of forest policy to cover 75% of the uncultivated areas of Pakistan. Currently, foreign exchange to the tune of about 2 billion rupees is spent on the import of pulp, paper and other wood-related products and about the same amount of foreign exchange is spent on the import of oil and domestic energy fuel. Therefore, the involvement of private sector in the production of wood for energy and raw material for wood-based industries has become inevitable. The use of land according to its capabilities is the essence of sound land management. It is, therefore, necessary that detailed landuse capability classifications be developed for the entire country. Besides legislative measures, incentives may be provided for encouraging the use of land according to the capability classification. The possibility of disincentives for improper use, such as tax, for cultivating steep slopes is another option.

With these brief remarks, I am grateful to you, Sir, for your presence among us today, and to the seminar participants for giving me a patient hearing. Thank you very much.

CLOSING REMARKS OF THE OPENING CEREMONY

By

Mr. Syed Abdullah Shah
Speaker-Sindh Assembly

In the name of Allah, the most beneficent and merciful.

Mr. Abeed Ullah Jan, Mr. Fort, Mr. Merkel, respected and retired forester Mr. Kermani, Mr. Sirhandi, respected foreign delegates, distinguished ladies and gentlemen:

It was only yesterday that Mr. Abeed Ullah Jan came to my office and asked me to be here amongst you this morning. The gentleman who was with him was frank enough to tell me that "first we tried to call the Federal Minister of Forests or somebody for this function, but he was a busy man, he couldn't make it." So then, they approached the Sindh Chief Minister and even he expressed his inability to come and be here. So I was the third option, and I told them also very frankly that yes, we are a nation of democracy and here the speaker is considered as a spare wheel you can fit anywhere you like, and I am available and I will see that I will be there on time.

First I will say something about the role of a speaker and about English. English is a very strange language. I have learned it for a number of years but still I will not be able to speak in a proper manner, perhaps, and those gentlemen whose mother tongue is English, they may not be able to appreciate my speech. I am known as a speaker, but as you know, a speaker makes very few speeches. In the house, when he is presiding over the house, all the speaking is done by the honorable members of the house and the speaker is quiet--and he is known as a speaker! And this reminds me of an anecdote from this very province: that there was a learned man whose name was Molvi Nazir Hussain Jatoi. He mastered so many languages but English. So somebody asked him, "Molvi Sahib, when you have been able to learn so many other languages, why not English?" He said "I have tried to learn this language, but when I was told that 'no' means no, and also 'know', which I would pronounce as kino, would also be pronounced as no, I said I cannot learn this language." This was about the speaker and the language in which I am now going to make a few submissions.

Now man was made by God to worship Him and to be subservient to Him. Not only this, but it is also stated in our Holy Book that all the other things in the universe have been made subservient to man, even the moon and the stars. Now what I am trying to say is,

what is this word "prayer?" We have been given a very narrow meaning of this word; that we just go on remembering the name of Almighty Allah and doing SAJDAH and other forms of prayers. I respectfully beg to disagree from this narrow meaning of prayer. We have also been told that the real prayer, the supreme prayer, is service to humanity. That is above all prayers. Whatever you may be doing outwardly, if you serve the creatures of Allah, humanity, that is the best prayer. Again, I'll refer to our Holy Book: there it says that even the trees bow before almighty Allah. We have also been told that if you have small children who are still incapable of committing any sin, if they offer prayers, the parents get the benefit of his child's prayers. Now, if I grow a tree, you can make a statement without any contradiction, that a tree cannot commit a sin. He is masoom (innocent), but still he prays to Almighty Allah, as our Holy Book says. So if I grow a tree and he bows before Almighty Allah, then I shall be getting the Sawab (or the result) of the tree's performance. Now, that is how I will submit before this august gathering, that unless we take life, whatever we do in life, as obedience to Allah and are serving humanity, only then you get the pleasure and the satisfaction of whatever you are doing in your ordinary course of life. I will go still further; that a great poet from this province, Shah Abdul Latif Bhitai, says (translated from Urdu), "A man can rise to that level where his body will become pasdi (prayer) and then his mind becomes the table of that prayer, and his heart goes on praying in the remembrance. He's awakened while he sleeps, because his sleep has also become a prayer."

So man can rise, because what happens that if I sleep only just for the sake of sleeping, that's not a prayer. But if I eat and sleep, perform ordinary duties of life with the object that by doing so I shall be capable, I shall be able to serve my other human beings, then this is Ibadat, this is prayer, and that is how we proceed further. You must educate the people that the planting of trees is as a prayer; just now Mr. Fort said that forests were considered great enemies of human beings and they started cutting them, right and left. It is because of lack of knowledge on the part of human beings. Otherwise, he's a very intelligent person; he was created intelligent; even the angels were made to bow before him because of his intelligence, because of his ilk, because of his knowledge. That is why even the angels were made to bow before Adam, our ancestor, the first man.

So, you have to tell the people and you educate them in such a manner that they start considering and believing, and they must believe that this growing of trees or making the deserts bloom is a prayer and service of God, and service of humanity, and that is only when you will be able to make your policies succeed ultimately. However high sounding policies we might make, unless you have the cooperation and understanding of the people, you can't have any restrictive laws--if a man is determined to break a law, he can do it. He can do it at any time he likes. You have

prescribed the death penalty for murder, still murders are being committed. So, stringent laws are not the answer; the answer is that only if you educate the people will your policies ultimately succeed.

Now why, in this particular country, our forest wealth has not increased. One of the reasons, according to my humble submission, would be that the people were not involved in the governmental activities of developing forests. The people in this country, in general, have not been allowed to participate in the national affairs for a very very long time. I believe that no country can prosper and develop unless its people are made co-sharers in its national activities, and that means democratic practices to be adopted. In this country, unfortunately, we had a very short span of democracy. Just now, again, I will refer to Mr. Fort's few words that politicians believe in very short-term plans and that it is sometimes harmful to our forests' development. But, Sir, in this country at least, the politicians have been there for a very very short interval and, therefore, I think this allegation may be true for other parts of the world, but not for Pakistan.

So, I would submit that your Departments of Forests, the officers, have to take the people in confidence if they want to make their policies succeed and develop. People really understand things, they make correct decisions provided they are persuaded in a proper way. We treat them as illiterate people. I make a statement that the formal university education may not be the only education--people can be educated even outside the schools. Now when you publicize any forest policy, I would request that you start a campaign not on television, not in the newspapers, not by pamphlets, because very few people in Pakistan can read and write; you can make use of other media, for example, a tape recorder. If you can give this sort of information to the ordinary man: that if you look after a tree, this life and that life both are going to be good. If you protect the tree, these are the advantages. He is your friend, he is subservient to you--he is serving you. I tell you one thing that Shah Abdul Latif Bhitai has, in one couplet, desired that man could live as a tree, because the tree is incapable of causing any damage to anybody else.

We go and sleep under the shade of a tree. After waking up and finding some fruits there, we pick up a Lathi (stick) or stone, throw it at the tree and damage it just to get some fruit. So we hit it, we did a bad deed to it and in return it gives us the fruit to eat. When a person worse than us comes and starts cutting it, and cuts it off, the tree doesn't cry, it doesn't raise a voice, it quietly suffers even though it is cut off. But after its life as a tree is done, it continues to serve man--you're sitting on a sofa, you have a charpoy in your house, so it continues to serve you even after its death. When the furniture becomes old and useless, you burn it for firewood and still the tree's service continues. It burns and still serves humanity with its last

product, ash that we in the villages use for cleaning our utensils after eating food. That ash is gone with the water in the land, and it serves as a good manure for the new grass. So Shah Abdul Latif said that it is the highest quality of a man that when somebody's trying to harm you, when he is trying to do a bad deed to you, you should go on serving him. This is how you educate the general public, because they are the people who live there. Just now Mr. Abeed Ullah stated that a rustic villager said that even if the trees were made of gold and guarded by the guards, the villagers would still cut them because they need them for firewood. This is very true. He made a frank and honest statement, that they have to live and survive and they need the firewood for cooking their food and even heating themselves if they live in the Northern areas. But you must kindly persuade them that they, of course, are allowed to use this thing for their own survival and for their basic needs, but that they must look after it, I am sure they will learn and understand that the development of forest wealth in Pakistan is beneficial to them and it is for their good. You must explain that they have to look after them and use them as and when it is necessary in the proper and planned manner.

Now, Mr. Abeed Ullah has referred to the lacunae in our forest laws. I have already submitted that we are the legislators, we are the lawmakers. I think that if the Departments of Forests thinks that these laws require a change, they can make a sort of summary through their Secretaries of Forests, or in the Federal Government, and the laws can be amended; of course, after proper understanding and debate, because as I have said, stringent laws are generally not very effective unless the people are made to believe that obedience to laws is in their own good. If the people feel the laws are only to suppress them, they will not obey as they have been suppressed so much already.

If I may be frank, I would like to say that even in the area from where I come, there are few forests which are not deteriorating. This is because of the obvious reason: the ordinary man is afraid, firstly of the police, and secondly of the forest department officers; you cannot win him by terrorizing him. You have got to make friends with him. You have to advise him, you have to persuade him, he is one of you, he is from you. You may be highly educated, you may be occupying a very high position, but he is with you, he is from you, and you have to take him in confidence if you really want this forest area and forestry to develop in Pakistan. Our foreign distinguished guests are here and I will earnestly make a request to them to consider this submission from me: that unless the forest policies make a proper, comprehensive provision for involving people with the development of this industry of agriculture, whatever you call it, we will not be able to achieve the goals which we aim to achieve. With these submissions, I will now beg your leave and I am grateful to the distinguished guests to

have heard me and given me a chance to meet you. I hope this seminar brings some very good and positive results for my lovely country. Pakistan Zindabad.

**"THE ROLE OF POLICY IN NATIONAL
FOREST MANAGEMENT PLANNING"**

By

George Leonard, Associate Chief, Forest Service
U.S. Department of Agriculture

Though this is a seminar on forest policy for Pakistan, my remarks will address the variety of experiences with forest policy and planning in the United States. That is something I am more familiar with, and I believe that our experiences in the United States have been diverse enough that you may draw from them some applicable parallels and contrasts for Pakistan.

In the United States, we have had an abundance both of forest resources and of things to do with them. This has produced a continual tension between the sufficiency of our resources and our evolving expectations of them that has been the main change-agent in our forest policies and plans.

The Evolution of Policy

In our history, there was a time when we Americans were a handful of English colonists with a toehold on the North American continent, and the continent before us was seen as a barren and desolate wilderness that was full of "wild beasts and wild men."

Resource Exploitation:

Yet, that colony grew and pushed back the frontier. The people multiplied and moved westward. They drew their resources from that wilderness and built our nation. By acquisition or reservation, most of the lands in the western United States came to be owned by our central Federal Government.

At first, there was no formal, written policy for managing those lands. By default, however, the policy was that the lands were vast, the resources limitless, and that the wilderness was to be subdued, the forests cleared, and the lands disposed of to build railroads and industries. Many of these government-owned lands were sold or given away to develop the interior. The land was settled, the resources tapped, and our Nation built.

Along the way, we made mistakes. Sometimes we plowed where we shouldn't have. Sometimes we grazed more livestock on the land than we should have. We overcut some of our forests, and we suffered the consequences of floods, erosion, and devastated forests. In the southern part of our country, for example, 63 million hectares of forest were cutover by the 1920's. Large parts of our northeastern forests lay overcut and abandoned as well.

Resource Conservation:

But we learned from our mistakes and established policies to correct them. We learned soil conservation and forest management, and we established conservation programs. In 1872, we established our first National Park--Yellowstone National Park. The first government forestry program in the United States began in 1876, in response to our peoples' concerns with overcutting. In 1891, we established a system of National Forests, and in 1897 established a policy to manage and protect them. In the 91 years since, we have set aside large areas as National Forests, National Parks, and National Wildlife Refuges, and have preserved some areas as wilderness or research natural areas.

And we learned that, with good management, the land and its resources can recover. In our South, for example--which had been so cutover 70 years ago--we are now planting our fourth-generation forest, and that area is often called the "wood basket" of the United States. The lands in the Northeast that had been overcut and abandoned were bought by the government to be National Forests, and have been restored to productivity.

We have a speckled past in the United States. Through our two centuries of history we have applied a span of policies to our forests that have been appropriate to the long-term needs of our nation and to the desires and expectations of our people. These have ranged from forest development to settle the land and build our nation, to forest preservation so as to sustain those gains for the long-term. Our current policies of forest management embrace a continual tension among those differing desires and expectations.

The Current Situation

Before I go on to discuss our current policies for managing National Forests, however, let me give you a basic primer on the forestry context within which we manage those lands.

Forest and Rangeland Base:

There are 913.5 million hectares of land in the United States; of this, about 606 million hectares (66%) is forest or rangeland.

The forest lands are distributed widely throughout the country, but the rangelands are found mostly in the West.

The central Federal Government owns 198 million hectares (33%) of this forest and rangeland. About 53 million hectares (9%) are within our system of National Parks, in National Wildlife Refuges, or within military reservations where they are managed according to their purposes. Another 71 million hectares (12%) remain as part of our public domain lands, which are managed for many uses, including range grazing, timber management, recreation, and water. The remaining 74 million hectares (8%) are reserved as National Forests and Grasslands--The National Forest System--and managed for many uses as well. Of all of these Federal lands, about 37 million hectares are legally designated as Wilderness and preserved to maintain their natural values absent human interference. In addition, we have set aside a few million hectares in various categories of conservation area, for scientific work.

About 295 million hectares, or 32% of the land area of the United States, are forested. Of this, about 70 percent is privately owned. Forest industry directly owns about 29 million hectares (10%) of the forest, and the remainder of the private land is held in millions of small tracts by millions of owners. The owners of these private lands are responsible for whatever forest management these lands receive, but most of these private lands that are not owned by the forest industry receive very little management.

Our central Federal Government owns and manages 29 percent of the forest land in the United States. The largest part of this--20 percent of all forest lands (57.4 million hectares), as well as about 16.5 million hectares (5%) of rangeland--is within the National Forests which are managed by my agency, the Forest Service.

Forest Management:

The Forest Service is the largest forestry organization in the United States, both because we manage the largest forestry land base and because we carry out the Government's other central activities relating to forestry research and assistance to forest management on other forest lands.

Because of the diverse nature of forest land ownership in the United States, however, forest management on a national basis involves a great deal of cooperation among many forestry organizations located throughout the Federal government, in each of our State governments, in our forest industries, and in the form of many forestry consultants. Many universities with forestry curricula also carry out extensive programs of forestry research, as well.

Policy in National Forest Management

Within that context, let me talk about the policies within which we plan the management of the National Forests. There are several basic policies which guide us. Most of these are written in laws passed by our Congress and approved by our President, but some are based more obscurely on long-held tradition or administrative decision. Each of these policies and their interpretations, though, are the product of the continual tension among differing expectations of how these forests are to be used and managed, which I have spoken of before.

The on-the-ground management of the National Forests is carried out on 156 National Forests spread among 43 of our 50 States, Puerto Rico, and the U.S. Virgin Islands. These National Forests average about 495 thousand hectares. Each is overseen by a Forest Supervisor, who has a staff. For administrative convenience, these National Forests are aggregated into 9 Regions, each headed by a Regional Forester, who has a staff as well.

Within the Forest Service, planning is done primarily at the National and Forest levels. National-level planning is primarily long-term. Every ten years, the Forest Service prepares a national assessment of present and projected forest and range resource conditions, supplies, and demands on all forest and rangelands in the United States. Every five years, this information is used to develop a national program for the Forest Service, including resource goals and quantified objectives for management, considering local supply capabilities and market conditions. This information is some of the information used to prepare land and resource management plans for each of the National Forests. An intermediate planning process at the Regional level serves to convey management direction from the National level to the Forest level, and to convey resource information from the Forest level to the National level. The planning process is also essentially iterative, in that information from each National Forest flows up to the National level, where in turn goals and objective from National planning flows back to the Forest level.

Policies are part of the continuous flow of information and management direction among the three Forest Service planning levels--national, regional, and forest. Accordingly, these policies are typically stated most broadly and generally at the national level, leaving it to our Regional Forests to establish more specific guidelines adapting the policies for regional implementation, and still leaving it for the local forest supervisor to apply the policies on the National Forest. This establishes the policies on the ground, but leaves a great deal of room for them to be adapted to local conditions.

With that understanding--that these policies are stated broadly and generally at the national level--let me review the

basic policies which our Forest Supervisors today must follow in managing each of the 156 National Forests. There are at least seven:

1. Sustained Yield:

One of the basic aims of forest management in the traditional sense is to keep forest lands productive. Therefore, one of the fundamental underriding policies for the National Forests is one of sustained yield. The whole concept of sustained timber flow, which is one of the fundamentals of forestry, has its universal roots in German forestry. Dr Dietrich Brandis, a renowned German forester who had been the Inspector General of the Imperial Forest Service of India, was later the main mentor of Gifford Pinchot. Pinchot was the first American-born forester in the United States, and founder and first Chief of the Federal Forest Service.

In its strictest literal sense drawn from traditional roots where the main recognized product was timber or firewood, sustained yield means that the forests are managed to yield a flow of timber that can be perpetually sustained. Our policy for the National Forests, however, enlarges this concept to embrace the several resources and values these forests produce. We apply it not only to timber, but also to recreational opportunity, range grazing, and the many other uses--to all resources except energy, minerals, and other nonrenewable resources. The general idea is to manage the forest in such a way as to protect the soil productivity and ensure that the forest is continually renewed.

This sustained yield policy was established first by direction from the Chief, and later was reinforced in specific laws. As practiced on the National Forests, our sustained-yield policy for timber is coupled with one of uniform yield, or "even flow," through which the volume of timber sold for harvest from the National Forests would be consistent over time. The intent is to avoid major fluctuations that might upset the economic or social structure of the community. This fits neatly into another policy, that of community stability.

2. Community Stability:

Concern for the stability of local communities has long been a policy for the National Forests. This policy was reflected first in a directive from the Secretary of Agriculture to the Chief of the Forest Service that, "In the management of each reserve (National Forest) local questions will be decided upon local grounds," and that "sudden changes in industrial conditions will be avoided by gradual adjustment after due notice."

Later, this directive led to regulations that require us to provide an even flow of timber from the National Forests; to facilitate the stabilization of communities and the opportunities for employment. This has since been reaffirmed in many decisions we have made on specific issues, and in concerns expressed by our Secretary of Agriculture that our forest plans must address "the cumulative impact of National Forest programs of individual National Forests on the economies of local dependent communities."

This policy of community stability means that we avoid radical, or abrupt, changes in the economic or social structure of communities. This has been controversial, at times, because it is used to justify our reluctance to take actions that would reduce the supply of timber to mills in dependent communities.

It is probably true that a sustained yield of timber doesn't guarantee a stable community. Many other factors affect the ability of mills to compete, to continue operating, and to continue to provide jobs and income for the community; most of those are outside of the control of the individual firms. Also, jobs per unit of wood processed are constantly decreasing as capital replaces labor so mills can compete in national and, increasingly, international market places. Yet, it is also true that an abrupt cut off of supplies can damage the economy of dependent communities. Precipitous action can eliminate jobs overnight, throw corporations into bankruptcy, destroy peoples' equity in their homes, and reduce families and communities to poverty.

We know these things can happen. We also see that our efforts to maintain stable communities prevent most of these things from happening. Therefore, our policies remain committed to promoting community stability. We attempt to meet historic demands for timber, but recognize that community stability is not built on a single industry. The key to community stability is a diverse economy.

Therefore, our policy for community stability is to provide continuity of supply, where this is possible. Where changes in the multiple use resource mix are needed to respond to changing needs, we phase in these changes in a way that minimizes the economic and social disruption. In effect, what we do is ensure that timber supplies are predictable over the long term.

3. Multiple Use:

The National Forests have long been managed under a policy of multiple use, which recognizes that any given piece

of land, large or small, has several interrelated and interacting potential products or uses.

This policy is the product of reality, as the National Forests have nearly always been used or valued for a variety of resources and purposes--not only timber and firewood, but for water, hiking and camping, grazing, wildlife, fishing, and many others. During the early years of National Forest management, there was plenty of room for all of these uses without conflict.

Following the second World War, however, forest uses multiplied and intensified to the point that conflicts occurred and administrative direction appeared to be insufficient. Congress legislated a policy of multiple use on the National Forests in 1960, and since then has passed laws specifically legitimizing wilderness and several other uses on the National Forests.

The National Forests by policy, therefore, are lands of many uses. Among the managers of these forests, however, this is a difficult policy to apply because it is so broad and so vague, and the interactions among these various multiple users can be rife with conflict.

In our Pacific Northwest, for example, we have a current conflict between timber and wildlife uses of the forest. The issue is whether the extensive stands of large, overmature, Douglas-fir, which that area is famous for, will be harvested for timber, or whether those stands of "old growth" will be protected and maintained as habitat for the Northern Spotted Owl and associated species which are dependent on old-growth habitat. And there are many other conflicts, for example, over whether riparian areas will be grazed by cattle or maintained as valuable wildlife habitat.

Our multiple use policy does not establish priorities or precedents among these uses; only that it's appropriate that the National Forests accommodate many uses which must be blended and fit together by our Forest Supervisors as best they can. This "fitting together" is often a difficult matter, due to the opposing pressures for various uses. Therefore, this "fitting together" is done with full participation by the public.

4. Environmental Protection:

Another policy--one which is broadly stated but specifically defined in many laws and regulations--is environmental protection.

Someone might make the point that the purpose of forestry is to protect the environment, and no environmental policy for forest management is needed. Given the intense interest in America and many other countries in having a clean and healthy environment, however, explicitness is considered the best tack, and we have many so-called "environmental" laws which provide explicit standards or establish direct processes designed to clean up our environment. In aggregate, they establish a very strong environmental policy.

One of the earliest of these environmental laws--and the single environmental law which has had the most effect on National Forest Management--was the "National Environmental Policy Act," in 1970, which establishes "the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance,... to foster the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations..." The law included an "action forcing" mechanism in requiring government agencies to examine and state the anticipated environmental consequences of their proposed actions or decisions. This ensured that the policy permeated to all reaches of government.

The interpretation of this broad policy has been pushed along by several more specific laws, including laws for clean water and clean air, pesticides, herbicides, and others. The policy aspects of this are quite obvious: The National Forests are to be managed in a way that protects the environment.

This policy is further affirmed by a long line of environmental litigation in our court system, where individuals or organizations have brought suit to ensure our compliance with the letter of the law.

5. Biological Diversity:

We are just beginning to understand the role and nature of biodiversity in National Forest Management, yet it is an inherent policy for managing those forests. It is difficult to pull out any one part of forest management without finding it tied to biodiversity.

Much of our policy for biodiversity comes from the National Forest Management Act, which is the law which guides and directs most of our forest planning. This policy requires that our forest plans and subsequent forest management "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area

in order to meet overall multiple use objectives." It goes on to suggest that management should preserve a diversity of tree species.

The regulations which implement this policy require that the Forest Supervisors collect data to evaluate the effects of biodiversity, and that they consider biodiversity as an important planning factor throughout the planning process and for all alternatives.

To be frank, however, a policy on biodiversity for forest planning is very difficult to apply. It is affected by nearly everything we seek to do, and therefore, requires that we manage nearly all of our forest lands for such diversity.

6. Public Participation:

Our Forest Supervisors follow a policy of permitting the public to participate in the process as major decisions are made, including forest planning decisions.

The intent of this public participation is to (1) broaden the information base available to the forest manager, (2) ensure that the forest manager understands peoples' concerns and wishes, (3) inform people about what the forest manager plans to do, and (4) increase public understanding and support of forest management.

Our policy is to involve people early and often as our forest plans are developed. This involves both formal meetings, and informal discussions between the forest managers and people who may live nearby. We provide 1-2 months' notice of most of these activities, and make copies of the planning documents and background reports available for the public to review. The comments that people make are then analyzed individually and by category, and then considered when the decision is made or the final plan developed.

Our experience has been that, if a program of forest management on National Forests is going to succeed, it has to have public support, especially the support of the people nearest the forest. For that reason, we carry a strong belief in the necessity for the public being involved in our forest planning.

7. Economic Efficiency:

Economic efficiency is obviously a desirable policy for National Forest management; however, not all of the resources of the forest can be easily or appropriately quantified. The National Forests are extensive and have proven to be a valuable resource to the United States, though that does not

mean that their management makes a profit that an accountant might tally. Looking just at the financial aspects, while annual costs of managing the National Forests approach \$31 per hectare, cash receipts to the Federal government from the sale of timber, mining and grazing rights, and recreation opportunities are about \$26 per hectare. By this comparison, we lose about \$5 per hectare annually in managing these forests, though, of course, the value of water, wildlife, wilderness, beautiful scenery, and many other forest associated values are not amenable to dollar terms.

When we develop plans for the individual forests, we are required by regulation to be as economically efficient as possible. In establishing the mix of environmental, economic, and social goals, we must ensure that our management activities will use the public's wealth in the most advantageous manner. Though this entails economic efficiency, it does not necessarily entail dollar profit.

Closing

I have reviewed the evolution of forest policy in the United States over the past 350 years and examined the current situation of the National Forests relative to other categories of land ownership. Finally, I have examined our planning situation and several major national policies which guide and affect that planning.

I hope you will examine the U.S. experience with forest policy in the context of our management environment and our peoples' evolving needs and expectations, and consider whether, where, and how these experiences and policies may be applied to meeting your peoples' needs.

**"THE BUREAU OF LAND MANAGEMENT'S RANGELAND
MANAGEMENT PROCESS AND POLICIES"**

By

**Mel Berg
USDI Bureau of Land Management, USA**

My name is Mel Berg. I am a District Manager in the Pacific Northwest Region of the United States with the Bureau of Land Management, a small agency within the Department of the Interior.

Although a small agency, the Bureau of Land Management is responsible for the management of 135 million hectares, 46% of the land owned by the United States. These lands are located in 11 states in the western half of the United States. We manage these lands for multiple uses, including timber production, wildlife habitat, mineral development, recreation, livestock forage and watershed protection, to mention just a few.

Two of the biggest uses of the public lands within the state where I live, Oregon, are rangeland forage production for grazing livestock and forest land for timber production. My friend from the U.S. Forest Service will talk about forest land management and I will address the rangeland management process as it has evolved through the years on the Bureau of Land Management lands.

America's public rangeland--lands on which the native vegetation is predominantly grasses, grasslike plants, forbs, or shrubs--cover 68.8 million hectares in 11 western states, excluding Alaska. The Bureau's management of these lands is guided by three major pieces of legislation:

1. Taylor Grazing Act of 1934
2. Federal Land Policy and Management Act of 1976
3. Public Rangelands Improvement Act of 1978

Legislation passed after the 1934 Taylor Grazing Act broadened range management to include other, equally valuable, uses of the public lands. Livestock grazing must be considered in the context of multiple use, and with the objective of maintaining and improving the public lands for the present and the future.

Range management continues to be guided by goals of the Taylor Grazing Act plus direction provided by the Federal Land Policy and Management Act and the Public Rangelands Improvement Act:

1. To administer livestock grazing on public rangelands to balance use and sustain productivity.
2. To protect and improve rangelands through sound landuse planning, which includes making cost effective investments and management decisions.
3. To make coordinated decisions involving lessees/permittees, the affected landowners, interest groups, individuals, and other agencies.
4. To ensure that improvements in rangelands generally provide multiple use benefits.

Selective Management:

The Bureau of Land Management's policy is to concentrate funding and personnel where management will improve overall range condition, resolve use conflicts, or where investment in range improvements will yield the best return. This approach is called selective management.

To implement this selective management process, the Bureau will develop objectives and assign management priorities to rangeland areas called allotments. Three categories are identified to group allotments according to expected potential to respond to management. This potential is determined by analyzing existing range conditions, conflicts or controversy, opportunities for positive economic return, as well as the present management situation.

The three categories will usually account for nearly all resource situations; however, some unique management objectives may need to be developed. Objectives for the three categories are to:

1. Maintain current satisfactory condition.
2. Improve current unsatisfactory condition.
3. Custodial management protecting existing values.

Any management actions within allotments will be designed to meet these broad objectives.

Identification of selective management categories and objectives usually occurs as part of the land-use planning process. The landuse planning process is designed to let the general public help the Bureau identify resource management objectives.

Establishing Resource Management Objectives:

Resource management objectives help describe the condition and productivity needed to sustain the desired mix of uses. The Bureau of Land Management uses these objectives to develop specific management actions, such as the installation of rangeland improvements and the development of allotment management plans. The Bureau also uses these objectives to determine what inventory and monitoring data are needed to determine process or lack of progress toward the objective.

Through the landuse planning process, the public will help integrate the various rangeland uses and management practices. Where one rangeland use may adversely affect another value, the landuse plan--called a Resource Management Plan--provides the opportunity for the Bureau and the public to work together to resolve the conflict. Inventory and monitoring are an integral part of our rangeland management.

Inventory and Monitoring:

Range inventory is the process for gathering data needed to describe, characterize, and quantify existing resources. These data are the basis for landuse plans and for allocating public land resources through the Resource Management Plan. These data also identify and support needed management actions, establish a baseline for measuring change in resource condition, and establish a basis for comparison of various land types and ownerships.

The Bureau of Land Management's goal for a baseline inventory is a soil survey and ecological site data. Ecological site data identify the land according to its potential natural community and specific physical site characteristics, which make each area different from others in its ability to produce vegetation and to respond to management.

Rangeland monitoring is a process of periodically collecting data over the long term. These data are used to determine the effects of management actions on rangelands and to provide a basis to support management decisions when changes are needed.

Generally, monitoring studies fall into four broad categories:

1. Actual use
2. Utilization
3. Trend
4. Climatic

Actual use data is the amount of grazing which has occurred on an area of rangeland during a specific period of time. Use data on wildlife, wild horses and wild burros are also collected. These data are essential to determine the need or amount of adjustment in domestic grazing use or possibly revising existing management plans.

Utilization data will provide information on the percentage of forage consumed or destroyed during a specific period of time and the grazing pattern on the allotment. The data will also help evaluate the effects of grazing use on a specific area and identify concentration areas that could be dispersed by some range improvement investment.

Trend is the directional change (better or worse) in vegetation and other site factors over time. Trend data provide information to determine the effectiveness of on the ground management actions, and evaluate progress in meeting established management objectives. Trend data will indicate whether the rangeland is moving toward or away from the land's full potential.

The fourth monitoring data base is climatic information. Although soil, topography, and animals influence the kind of vegetation, climate is recognized as the most important influence. Aspects of climate that might be studied include precipitation (amount, time of occurrence, and distribution), soil and air temperature, wind, and evapotranspiration rate. This climatic data must be combined with actual use, utilization, and trend information to evaluate the overall effect of management on vegetation.

Range Improvements:

Range improvements have been a significant part of the Bureau of Land Management's range management program since passage of the Taylor Grazing Act some 55 years ago. The United States Congress recognized the importance of range improvements by providing that a portion of the fees collected for grazing would be used for construction or maintenance of improvements.

The Bureau's policy is to establish cost-effective range improvements for a variety of uses, including livestock grazing, wildlife, wild horses and burros, and overall watershed protection. The Bureau is making better use of available funding for new improvements by assigning maintenance of existing structures to the primary users of the improvement. For example, if an improvement such as a water development primarily benefits grazing management, the livestock operator is responsible for its maintenance. Private investment in range improvements is also encouraged.

To ensure the most cost-effective use of available funds, the Bureau will do an investment analysis of all improvements proposed

for each allotment. Funds will then be allocated to allotments to resolve the most serious resource use conflicts and where the greatest return on the investment is expected.

Cooperative Management:

The Bureau of Land Management working together with rangeland users has been a key part of our range management philosophy since informal boards of stockmen helped to implement the Taylor Grazing Act over 50 years ago. Legislation passed since the Taylor Grazing Act continues to direct and support this cooperative range management philosophy. The most recent example, the Public Rangelands Improvement Act of 1978, expanded the philosophy of consultation, cooperation, and coordination. This Act also established an Experimental Stewardship Program to explore innovative grazing management policies. The Bureau currently administers eleven experimental stewardship areas throughout the Western States. Three of these are administered jointly by Bureau and the Forest Service.

Coordinated Resource Management planning is another effort designed to encourage rangeland users and other interested parties to participate in cooperative management. It is a process whereby various interest groups or individuals work together to identify alternatives for reaching acceptable resource management objectives for a specific area. Membership on a Coordinated Resource Management board generally includes representatives from user groups, the Bureau, the Forest Service, the Soil Conservation Service, State wildlife agencies, and other owners or administrators of land adjacent to the public lands.

Another significant area of cooperative management receiving special attention for the past four or five years is the management of riparian areas. Riparian ecosystems, though small in proportion to upland ecosystems, contribute significantly toward the production of multiple values on public rangelands. Multiple values provide multiple uses, which in turn can result in conflicts between users of these ecosystems. Prevention or resolution of these conflicts demand the involvement of all affected parties to develop management alternatives and decision for these complex ecosystems. Coordinated resource management plans are necessary for the successful management of these areas.

The Bureau encourages users and public involvement in ways other than the formal planning process. District Grazing Advisory Boards are called upon to advise District Managers on range management issues specifically related to livestock grazing. The Grazing Boards are consulted prior to the assignment of maintenance responsibilities for range improvements and their advice is sought in specific situations involving the cancellation of grazing or range improvement permits.

Some districts have two Advisory groups to consult. The second group is called the District Multiple-Use Advisory Council. These councils usually have a much broader perspective than that of the District Grazing Advisory Boards, and are, therefore, asked by the District Managers to offer advice on many multiple use issues.

The Bureau of Land Management makes a special effort to work with the States through the National Governors' Association and its Subcommittee on Range Management. The Association, or Subcommittee, receives periodic briefings on Bureau policy and program issues affecting the Western States. Recommendations received from the Association are fully considered and frequently adopted to improve range management policies and programs.

The future for the United States Public Rangelands is bright and public lands will be managed for what the American people want from these lands. Livestock grazing will continue to be an important use, but so will land-based recreation, water-based recreation, the extraction of mineral and petroleum resources, the production of quality water from healthy watersheds, habitat for wildlife both large and small. The Public Rangelands of the United States will continue to meet these needs through careful, consistent and cooperative management.

This has been a quick trip through the range management policies and practices of my agency--the Bureau of Land Management in the Western U.S. These rangelands are renewable resources and through the ever increasing knowledge and practice of rangeland management, I expect we will enjoy the multiple uses of this resource long into the future. I thank you for inviting me to speak at this seminar and I look forward to seeing and learning more about this beautiful country halfway around the world from where I call home.

"PEOPLE'S INVOLVEMENT IN FOREST MANAGEMENT-- EXPERIENCES AND STRATEGIES OF KIDP"

By

Christoph Duerr
Swiss Forest Engineer and Technical Advisor in KIDP

Introduction:

Our Project is situated in the northern part of the North West Frontier Province (NWFP) in the zone of dry temperate forests, ranging from about 1800 - 3200 meters a.s.l. It covers the upper Swat Valley, including Kalam and Bahrain Tehsil, with a total population of 120,000 people. The area was under the rule of Wali of Swat until 1969 when it merged with Pakistan. It keeps status as a semi-tribal area even today. One can distinguish at least ten different tribes within the area, speaking six different languages without counting the dialects. For centuries, the population is used to solving their problems internally. The group of respected elders, called "Jirgah", is the democratic platform for discussions and decisions of matters of common interest. It is also the link between individuals and the government.

The Kalam Integrated Development Project (KIDP) is a joint venture of the Governments of Pakistan and Switzerland, started in the spring of 1982 as a forestry project in Kalam. Due to a deep mistrust of the local population against outside interference, the cooperation was hampered. With the introduction of activities in agriculture and village infrastructure development, KIDP could slowly gain confidence.

Activities of KIDP in Forestry:

In close collaboration with the Forestry Pre-Investment Center, Peshawar, a "Working Plan for the Kalam Forests" has been elaborated during the last two years. It prescribes the annual yield, opening-up and plantations for a period of 15 years, based on scientific inventory methods, proper mapping, detailed road survey and an appropriate stratification for calculation of the annual yield. Many suggestions for improvement of the fodder and firewood situation have been made.

In timber harvesting, training courses for locals have been arranged and different systems have been tried for the efficient system of employment. The forest workers are now working on a

contract basis in small crews of two or more persons in the forests nearby their villages. An appropriate combination of cable cranes and permanent forest roads ensures the efficient extraction of timber and gives permanent employment to the local population.

Under forestry extension, arrangement of public gatherings, organizing forest committees, annual exhibitions and free distribution of saplings for afforestation on private land is being done. The project is maintaining nurseries in order to provide plants for afforestation on private land and plants for artificial regeneration in the cutover areas.

For improvement of subalpine and alpine pastures, encouraging trials have been carried out.

Forest Management:

For centuries, the Kalam forests have been managed by the communities living adjacent to them. All their needs, like construction timber, firewood, grazing land, etc., could be fulfilled. With the occupation of Kalam by the Wali of Swat in 1947, the local people were, for the first time, subjected to some control on the felling of green trees, and on breaking forest land for cultivation.

With the merger of the area with Pakistan in 1969, the local people started asserting their authority over the forests, which resulted in unauthorized fellings and a demand for 60% share of the timber proceeds from government. They never agreed to stop grazing in areas under regeneration and there exists an agreement amongst the elders not to allow the Forest Department to plant the blank areas. Afforestation is considered as strengthening the Government's claim of its ownership as all forests were declared in 1972. Similarly, all efforts of land settlement in 1983 were boycotted by the Kalamis. However, KIDP succeeded in building confidence, and together with the local forest committee, one cutover area was fenced and artificial regeneration was initiated in 1986. In the Forest Department, forest management is normally considered as the controlled exploitation of commercial timber. The national importance of proper watershed management is recognized in order to slow down soil erosion to reduce siltation and flood danger in the plains. But we should not forget that the basic needs of the local population living in the mountains are setting different priorities.

Table 1 describes the utilization of the products of the Kalam forests. The procedure for the departmental extraction of timber is shown in Table 2. For the local population, collection of firewood and free grazing are the main needs without any real alternative. The estimated annual consumption of firewood is three times more than the prescribed annual cut of commercial timber.

Illicit fellings are the logical result of the low local quota, fixed in the Working Plan, which fulfills the annual need of only 40% of the population. For the common man, the departmental procedure for receiving timber from the quota takes years, so he prefers to cut the trees illegally.

Involvement of the Local Population:

The implementing agency of KIDP is the Forest Department. Its traditional duty is described as protection of the forests. What does it mean?

The current extensive forest management gives emphasis to harvest timber without much concern for a silvicultural concept of marking trees to be felled, without regard for the damages to the remaining trees during the harvest operation and without concern for the establishment of regeneration. Before 1986, not a single tree was planted in Kalam Tehsil after cutting of millions of cubic feet of valuable timber. The Kalam forests comprise a lot of mature and over-mature stands, with low increment, which, instead of protection from cutting, requires accelerated harvesting accompanied by intensive regeneration and prevention of regeneration areas from grazing. This part of management is especially impossible without involvement of the locals. The Kalamis were teaching this lesson to the Forest Department last summer. They removed, without discussions, the freshly planted trees in a forest blank, considered by them fit for potato production. Table 2 shows the actual situation of the people's involvement in our project area.

TABLE 1

Kalam Forests Product

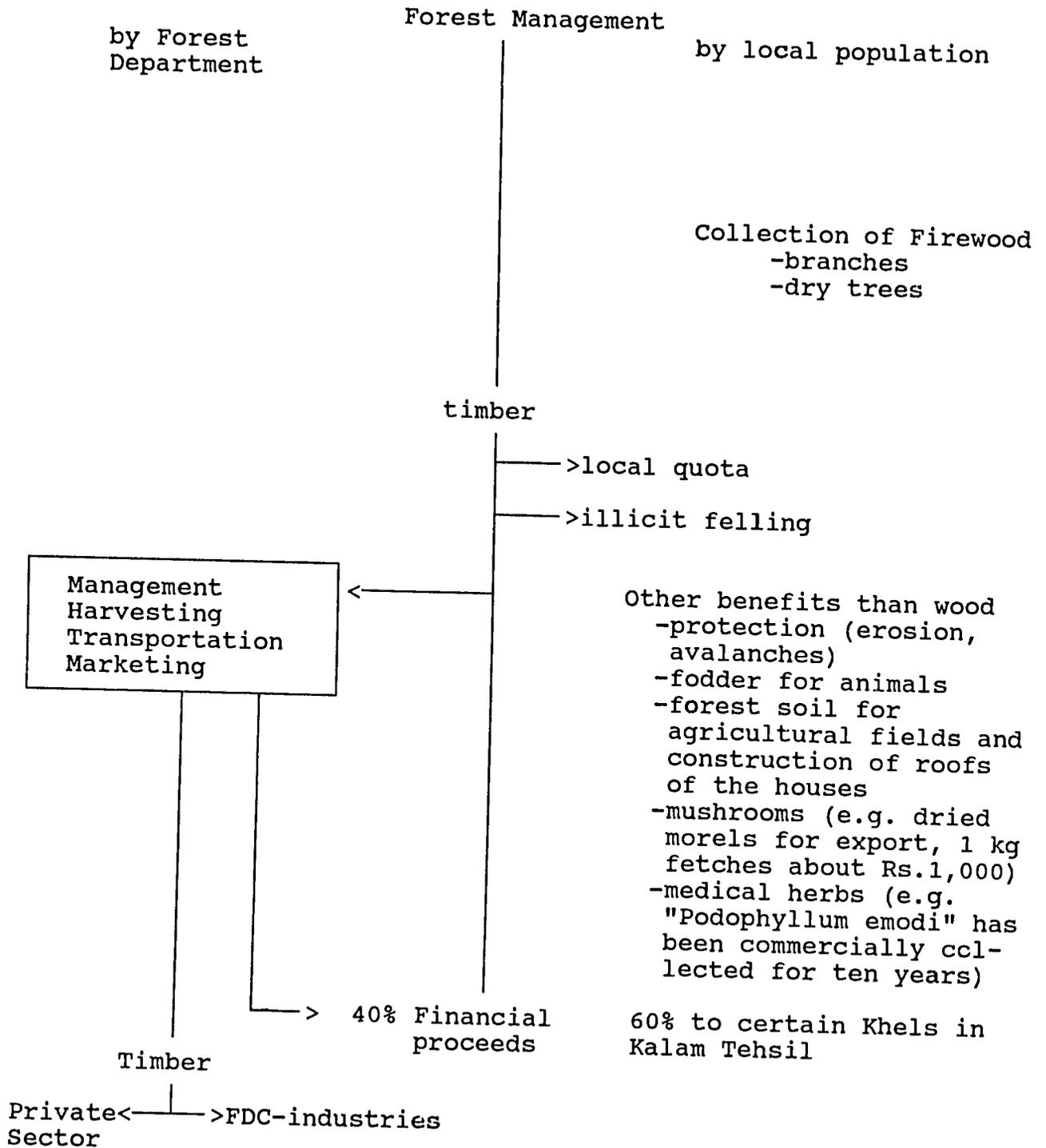


TABLE 2

Forestry Activities in Kalam Forests

Activity	Involvement of the Local Population
- Inventory of Forests by Forest Department (FD).	-
- Elaboration of Working Plan by FD for a period of 10-15 years including: = prescription of the annual yield of timber with fixed amount and location compartment-wise = annual plan for opening-up with permanent forest roads and cable cranes = annual plan for tree planting	-
- Approval of Working Plan through FD	-
- Marking in the respective compartments through FD	-
- Handing over the marking list to Forest Development Corporation (FDC), who will be responsible for harvesting.	-
- Harvesting through: = FDC staff plus day laborers or = One big contractor or	Petty contract system of KIDP (felling & conversion)
- Transport of timber to roadside depot through: = FDC staff plus day laborers or = One big contractor or	Petty contract system of KIDP (handskidding)
- Construction of roads through: = FDC staff plus day laborers or = One big contractor or	Petty contract system of KIDP
- Transport of timber from roadside depot to market through: = FDC trucks or = One big contractor	-

TABLE 2 (Continued)
Forest Activities in Kalam Forests

Activity	Involvement of the Local Population
- Marketing of timber at Chakdara Timber Market through FDC	-
- Distribution of the Royalty: = Selling price of timber minus harvesting and transport costs for FDC: net proceeds = 100% (40% local to FD and	60% to certain local Khels)
- Collection of by-products like rotten trees, branches, bark for firewood through:	Management by the local population
- Reforestation on cutover areas and afforestation on barren eroded land within the Working Plan compartment through FD	In close collaboration with one forest committee of one village
- Afforestation on private/community land, live spurs, live fences: = Demonstration models established by FD = FD provides saplings free of cost to the.....	local population
- Establishment and maintenance of nurseries through: = FD for forest plants (coniferous) and plants for fodder and firewood (broad leaves)	Private landowner has fruit and fodder plant nursery
- Pasture management = Trials through FD on very small scale	Utilization and management of the pastures within & above the Kalam forests by the locals and by the nomads (Gujars)

Experiences in KIDP of People's Involvement:

I will divide up our experiences as follows:

1. Planning:

The Forest Department feels no necessity to plan.

Limited time to plan. The area is divided into 162 compartments, covering an area of 90,500 acres out of which 17% is commercially used. Inventory, mapping and road survey is a laborious and sophisticated job.

It is unknown which authority on the local side should be involved in the planning for the whole Tehsil, keeping in mind the unclear legal ownership of the forest area and the social situation of the tribal area.

2. Construction of Forest Roads:

The Forest Department is used to constructing temporary roads which are abandoned after extraction of timber. To realize the benefit of permanent roads with high investment and maintenance costs is a learning process. However, it gives a permanent off-farm employment to the locals and allows for long-term planning.

3. Timber Harvesting:

The Project gives training courses and small harvesting contracts directly to local workers. The aim is to offer skilled jobs permanently to the people living nearby the forests and to improve the harvesting techniques which decrease the damage to the remaining forests and increase the selling price of well dressed timber logs.

4. Marketing of Timber and Processing:

People neither are allowed to cut timber commercially nor to buy timber from the Forest Department or the Forest Development Corporation in Kalam.

The only legal possibility for Kalamis is to purchase timber on the open auction at the timber market in Chakdara, 150 kilometers from Kalam. This is ridiculous and leads to the following result: to fell trees illegally and to saw trees illegally in sawmills.

5. Afforestation:

The above mentioned mistrust against outside interference, the unclear legal situation about the ownership of

forests and the lack of a pressing felt need by the local population for regeneration in the forests results in reluctance against planting of trees.

The national objectives of reduced siltation in the big water storage reservoirs, wildlife conservation and sustained supply of timber for the Pakistani industry in the next 100 years are fine. But, they are not motivation enough for the farmer in the mountains to reduce his livestock, to renounce any possibility to increase his fields for crop production or to feel cold in the winter in order to save firewood for Pakistan.

On the other hand, the farmer is disappointed with the nation, who is not providing him with sufficient schooling facilities, hospitals, drinking water supplies and cheap Sui-gas.

6. Nurseries:

There is a monopoly in the Forest Department. In the long run, it is a big financial and staff binding burden and can only be maintained with the money from foreign donors. Handing over this activity to the private sector seems an urgent need.

7. Pasture Management:

The Project can give only technical advice in the improvement of pastures, like rotational grazing, weeding, irrigation and fertilization with farmyard manure. These measures are basically known to the local population also, but again, unclear legal ownership, disputes among the locals themselves, conflicts between owners and users, and constant overgrazing make improvements difficult.

Strategies for People's Involvement in KIDP:

If forest management means to maintain the sustainability of the forests and if we consider, on the other hand, the basic requirements of the farmers in Kalam, close collaboration of the Forest Department with the people is logical and consistent. This is shown in our strategies:

1. Planning:

The consequences of the established Working Plan will be explained to the local population. Protection of the natural and artificial regeneration in the cutover areas has to be discussed with the genuine local village organization. For the next Working Plans this communication can take place even

in earlier stages. The Forest Department should hesitate to do further marking if regeneration is not ensured.

2. Timber Harvesting and Road Construction:

The gained experiences are encouraging. Training and contracts should be provided to the local population.

3. Marketing and Processing:

Without changing the legal situation, the local population cannot be involved. In order to discourage illicit felling and to increase the economical situation, the law should be changed.

4. Afforestation:

Again, the legal situation of ownership is a big hindrance. A coniferous tree, planted on private land, becomes government property later on, which is not acceptable to a farmer. Therefore, only broad leaves should be encouraged on private and community land. Any plantation without consultation of the people will fail.

The local population has expressed their strong fear that the Forest Department is doing reforestation within the forests and after some years is going to recover this investment by reducing the local share of the royalty. Can legislation ensure that this will not happen?

5. Nurseries:

Feasibility of private nurseries is studied on one or two trials within the project area. The question as to whether the Forest Department can guarantee a permanent sale market is still open.

6. Pasture Management:

The idea of decreasing the pressure on regeneration within the forests with improvement of the pastures sounds so logical. The Project is ready to give technical and financial assistance. For establishing our trials, should we involve the local population, too?

**"THE ROLE OF FORESTS IN THE FEDERAL REPUBLIC
OF GERMANY SINCE 1850 AND THEIR MANIFESTATION
IN FOREST LEGISLATION"**

Presented By

Dr. Michael Kleine¹
Technical Advisor, Germany

Introduction:

The forests in Germany were, towards the year 1800, mostly devastated, because they were overused for agricultural and industrial purposes; therefore, they could not fulfill their tasks for timber supply and protection against erosion.

The classical German Forestry was born in this distress, whose representatives COTTA, HARTIG, HEYER and HUNDESHAGEN became famous also in foreign countries. An intensive artificial reforestation was started with an increased proportion of conifer trees. Within the last 150 years of this modern forestry the annual yield could be brought up from less than 2 cubic meters/hectare to more than 4 cubic meters/hectare today.

Especially after 1850, the forest area was extended by new afforestation in spite of increasing population and industrialization, leading to a higher percentage of the forest area today (30%) than 80 years ago (27.7%). Problematic in this respect is the fact that the forest cover in densely populated areas, where the forest has to fulfill special tasks concerning protection and recreation, was continuously decreasing.

Increasing demands of an industrialized society:

Today the population density comes to 250 inhabitants per square kilometer and is double of 1914. In spite of a larger forest cover the forest area per capita decreased from 0.21 hectare in 1883 to 0.12 hectare in 1988. It is a matter of fact that the increased demand of the society has led to a multiple use of the

¹ Summary of a paper authored by Dr. Rolf Zundel, Institute of Forest Policy, Forest History and Nature Conservation, University of Gottingen, Federal Republic of Germany. The paper was originally presented at the IUFRO Symposium on the 13-16 September, 1988 in Zvolen, Czechoslovakia.

forests for different purposes. Today it is desired that all functions or tasks of a forest in a particular region should be fulfilled in a harmonic manner.

The most important functions of the forests given in the German Forest Policy are as follows:

1. Wood Production:

For the past 120 years, the demand of timber and other wood products cannot be fully met from the local resources. The annual yield of about 30 million cubic meters and, additionally, recycling of paper (13 million cubic meters of wood equivalent), contribute 70% to the self-sufficiency.

2. Protection:

Similar to the increased timber demand, also all protection tasks of the forests became more and more important:

- provision of clean drinking water,
- erosion control,
- protection of human settlements, roads and railways,
- protection against air pollution, and
- role of forests for protection of animal and plant species.

3. Recreation:

Due to the fact that about 80% of the Germans are living in densely populated areas and most of them are working in jobs without physical activities, as compensation, large forest areas are utilized for all types of recreation activities. Concerning the above mentioned functions of the forests, one can say that during the last 200 years the early main tasks of the forests, like food supply to the population and provision of energy, changed to a high importance of timber production, protection and recreation to meet the demand of an industrialized society.

Mapping of the Functions of the Forests for Forest Policy Decisions and Planning Activities:

In order to ensure the long-term existence of the forests as well as their functions, knowledge about the tasks which a forest in a particular area should fulfill and their priorities is required. Guidelines for such a mapping, especially of protection

and recreation functions, have been developed in Germany in the early 1960's.

The mapping work serves the following purposes:

1. As basis for forest policy decisions.
2. As part of landuse planning to avoid interference from other than forest activities.
3. For forest management planning.
4. For public relation activities.

Mapping work can be done in general for the entire forest area of a country. In the normal case, the forests have to fulfill many tasks (production, protection, and recreation) simultaneously. For planning purposes only, those areas have to be included which have a very high importance, and therefore, must be protected with priority and/or managed in a specific manner.

The mapping is carried out on maps with a scale of 1:50000 and does not consider property boundaries. In all provinces of the Federal Republic of Germany, a mapping of the relevant functions of the forests has been finalized and can be considered as a valuable basis for all above mentioned purposes, especially for decision making in forest policies. Changes in the landscape, like establishment of new settlements, construction of roads, and the setup of water supply facilities make it necessary to revise the mapping every ten years and to adapt it to the new situation.

The Manifestation of the Functions of the Forest in the Legislation:

Experiences from the past show the necessity of a forest legislation to ensure the survival of the forests and their various tasks. The modern German Forest Law (1975), which has the task to compromise the demand of a highly industrialized society (protection, recreation) and the interest of the forest owner (timber production), is based on well defined functions of the forests.

The purpose of this law is: to conserve the forests for economical exploitation, and for the importance of the environment, especially for climate, water regime, clean air, soil conservation, landscape, infrastructure and recreation for the people, to increase all these benefits and to ensure management based on the principle of sustained yield.

The forest law of the Federal Government, as well as the law of the provinces, contain various details to ensure all functions

of the forests; like approval of clear fellings, definition of protection and recreation forests, duty for reforestation, etc.

Conclusion:

The above described method, dealing with the definition of the most important tasks and functions of the forests, as well as their area distribution through mapping was, and still is, a successful procedure to gain basic information for the development of forest policy strategies in the Federal Republic of Germany. All these described factors refer to the conditions of the environment, society, and the level of industrialization at present existing in the country.

Large differences in the conditions of climate, landscape, socio-economical environment and objectives of forest management between Karachi and Gilgit, as well as Lahore or Quetta, calls for a forest policy which does not neglect all the important differences of these areas. Therefore, it would be worthwhile to incorporate the basic ideas of the described method (definition of forest functions and their mapping), with adaptation to the conditions of Pakistan, in the discussion of this seminar so that it becomes a part of the broad guidelines for designing a new forest policy for your country.

**"OVERVIEW OF FORESTRY POLICIES IN EUROPE, ASIA,
THE NEAR EAST, AFRICA AND LATIN AMERICA"**

Presented By

**Mr. R. S. Gujral²
Sr. Technical Advisor, FAO**

Introduction:

Much has been written on Forestry Policy, and this paper will not enter into the theoretical aspects of what is understood by it, its importance, its systems of interrelated elements and the mechanisms by which forestry policies are formulated. These are all aspects already covered in a very large number of forestry publications produced by FAO and other organizations. Neither will there be a discussion of the important aspects of the implementation of forestry policies which deserve much deeper analysis and attention from forestry policy specialists, and are beyond the scope of this paper.

This paper will, therefore, confine itself to presenting an overview of forestry policies in different countries based on information collected in recent years within the framework of FAO's efforts aimed at the improvement of forestry policies and legislation in FAO member countries.

Forestry Policies:

Rather than entering directly into the presentation of relevant forestry policies, some brief reflections may be appropriate. Especially in view of the fact that many countries are in the process of reorienting their forestry policy.

The formulation of sectoral policies is an exercise which governments frequently go through to guide the actions of all public, private, national, and foreign organizations interested in carrying out activities. Often, it is possible to read sectoral evaluation documents which make reference to the presence or absence of specific and clear policies, or evaluating their conceptual appropriateness, their links with other related sectoral policies or with the national development objectives, etc. In some

² Prepared by the Food and Agriculture Organization of the United Nations, Forestry Department, Rome.

documents, it is also stated that the absence of a policy orientation is the main cause of the deteriorated or crisis condition being suffered by the related economic sector.

In the forestry sector, there are many studies that single out the lack of a forestry policy as the main cause of the sectoral crisis, giving the impression that such a policy is the remedy to all ills afflicting the sector. This fact encourages some countries to define policies without sufficient attention being given to the establishment and pursuit of procedures and mechanisms that could ensure proper sectoral definitions, and without even having a clear concept of what is involved in forest resources and their relationship with other resources and sectors of national development.

It should not be surprising if too much similarity is found among forestry policies of different countries without due consideration having been given to the existing diversity of forests between the countries, their importance or area, the existing degree of technological knowledge for setting up certain policies, the current possibilities for employment, the economic constraints within which such policies can be applied, the level of economic diversification of the country, the degree of popular participation in decision making and implementation existing in the country, the institutional and implementing capacity, etc. In some cases, this situation implies the definition of policies which are no more than a mere collection of good intentions and aspirations of a restricted group of people, normally forestry sector specialists. Often this group has not given due consideration to the physical or socio-economic realities of the country or to the national development policy.

In other cases, there are countries whose forestry policies have been overtaken by social, economic and environmental changes, but which the public forest administration is still compelled to adhere to the previous conditions. Alternatively, there are countries in which obsolete policies have been put aside without being replaced, in which case the public forest administration responsible for the management of the sector lacks the institutional support needed to carry out its functions properly.

If, to all the above, is added the technical progress achieved or the new conceptual orientation and social exigencies imposed on the forestry sector, the need and importance of a careful review of the sectoral policies can be realized. Due attention must be given to the complexity and time horizon needed by the new forestry policies.

The relationship between socio-economic development and the environment as well as the ecological interdependence of nations are today well known and perceived, and are very clearly spelled out in the Brundtland Report. The existence of clear, consistent,

and properly formulated forestry policies will contribute to the well being of forest resources. However, this is not enough, and should be followed up by an appropriate implementation of the forestry policies, and it is precisely at this point that the main bottleneck of forestry development is found.

In fact, the institutional will to define an orientative policy for the sector normally exists, but this will not always be accompanied by the respective political will to implement such policy, to follow up the relevant strategies and take the actions needed to achieve exactly its stated objectives. This political will should be translated into the proper selection of priorities that the sector deserves in the assignment of the human, financial and material resources necessary to implement the established policies and in the selection of an adequate hierarchy needed by the public unit responsible for the forestry sector, to facilitate its functions and the implementation of policy. This does not mean to plead the "primus inter pares" position for the forestry sector, but the recognition of the importance that the sector can play in a country, taking into consideration the different factors that justify such importance of relevance. The formulation of a policy is a complex and very important task, but its implementation is, in the end, the only mechanism which can, in fact, validate its principles, strategies and its actions, as well as show how the sector is considered within a country.

Finally, it should be said that government policies are important, but they alone do not always determine the totality of what is being done. Consideration and attention should also be given to what other actors, such as private landowners and non-governmental organizations, are doing for conservation, protection and the development of forestry activities, frequently following their own views, ideals or orientations, quite independent of government policies, incentives and restrictions, with their achievements out of the public view. In many countries, these sectors play a very important and sometimes a very active, influential and consistent role in sectoral development.

The same can be said of the policies decided on by governments for the sectors directly or indirectly related to forestry, such as agriculture and livestock production, energy, land use, wildlife, tourism, infrastructural and industrial development, social and educational development, etc. These policies have a great influence on rural development in general, stimulating, promoting, complementing, hampering, or rendering incompatible specific policies of the related sectors. This influence works in both directions, which fact must be considered when forestry policies are being formulated.

All the above mentioned aspects should be taken into consideration when analyzing or formulating forestry policies. They could help lead to a more sound and realistic, practical and

effective sectoral policy. They also demonstrate the need to widen the traditionally narrow and exclusive group of people involved in policy formulation to include not only the direct clientele of the forestry sector, but also those who in different ways are or should be affected by forestry. The tasks and the challenges are complex, but their consequences make it necessary to act carefully and with wisdom and broadmindedness.

Given below are brief accounts of current forestry policies in a number of countries, outlining the main principles on which they are based and providing insights with respect to the formulation of policies in tune with the challenges now facing forestry.

Forestry Policies in Europe and Other Regions

Forestry Policies in Europe:

In line with the deliberations of the 22nd Session of the European Forestry Commission and with a similar proposal by the 46th Meeting of the Forestry Commission of the European Economic Community, in 1986/87 the FAO Forestry Department carried out a survey of forestry policies in Europe, the results of which have been published recently. Here we present some of the main conclusions of the survey.

1. EEC Member Countries:

The main fact to be deduced from a comparison of forestry policies in the EEC is that their objectives are the same, but the methods of achieving them are different. Apart from the specificity of national forestry situations derived from their historical background, and natural and socio-economic conditions, it appears very clear that all EEC forestry policies share common orientations and objectives, even if these may be attributed to different considerations depending on the country or even the different regions. As to methods used, the differences are such that it is difficult to divide the countries into homogenous groups significantly different, one from the other.

Very few objectives are quantified, apart from rates of afforestation in Portugal, Ireland and, formerly, in the United Kingdom on the one hand, and conservation of wooded areas in Denmark on the other.

Forests perform the same economic, ecological and social functions in Belgium, France, Greece and Spain. Countries placing more emphasis on economic objectives are the United Kingdom, Ireland and Portugal. Italian policy is oriented towards the revitalization and protection of mountain areas. The Netherlands and the Federal Republic of Germany give priority to economic functions and leisure uses. The recreational function of forests

is admitted everywhere but seems to be a priority in Denmark and, broadly speaking, more important in countries with higher population densities. The ecological function seems to be foremost in Luxembourg. Environmental aspects of erosion control are also of paramount importance in Italy, Greece and Spain.

While conservation of existing forests is an objective common to all countries, extension of the area under forest is planned: for timber production in the Netherlands, Ireland (State owned forests), Italy (private forests) and the United Kingdom; for protection of the environment in Italy (State owned forests) and Greece (State owned forests); and for multiple use in Luxembourg, the Netherlands and Portugal.

Forestry policy is a matter for the regions in Belgium, for federal legislation in the Federal Republic of Germany, for central programming in Spain, and sometimes for the approval of Central Government in Italy. In other countries policies are defined at the national level and the regions are responsible for their implementation (France, probably in the Netherlands in the near future and, to some extent, Denmark). Elsewhere (Greece, Portugal, Ireland, the United Kingdom and Luxembourg), the regions have executive powers.

2. Non-EEC Countries:

In the case of the non-EEC countries (Albania, Austria, Bulgaria, Cyprus, Czechoslovakia, Finland, German Democratic Republic, Hungary, Israel, Norway, Poland, Sweden, Turkey, Yugoslavia, Switzerland, USSR), the methods proposed in order to achieve forestry policy objectives differ from country to country, but the policies themselves have certain principles and objectives in common, namely:

- increase in timber availability through:
 - = more intensive management of existing forests;
 - = enlargement of forest area through afforestation;
 - = reduction of losses through disease, fire, etc.;
 - = increased utilization of residues;
 - = tree improvement (genetics).
- increased emphasis on:
 - = conservation of fauna and flora;
 - = provision of opportunities for recreation including, in most cases, hunting.
- close links between forestry and forest industries, and the integration of the sector as a whole in the national economy.

- satisfactory living and working conditions for all engaged in forestry and forest industry through proper attention to:
 - = wages, social security arrangements and other conditions of employment;
 - = safety measures;
 - = training facilities.

The similarity between the different forestry policies would appear to augur well for the development of international cooperation in the forestry sector. Community of objectives and diversity of methods are, in fact, two thought provoking elements that could lead to a mutually beneficial exchange of views.

There appears to be a general trend towards decentralization and an increase in the influence of both governmental and non-governmental bodies outside the country's forestry authority. The trend has gone furthest in the Nordic countries, which have developed elaborate systems of consultation at all levels and between various sectors of the economy. In Hungary, there has been a considerable devolution of responsibility from the center. In Yugoslavia, the individual republics and regions have considerable autonomy in forestry matters. In Switzerland, the Federal Government has limited authority in forestry, and the main forestry responsibility rests with the Cantons.

Forestry Policies in Asia

Forestry Policy in Japan:

The main orientation, aims and objectives of Japanese forestry policy must be extracted from:

1. The Basic Forestry Law (Law #161, 1969, which illustrates the basic concept of the national forestry policy).
2. The Forest Law (enacted in 1951, setting up the basic management of forests and replacing the Law of 1908).
3. The yearly Government statement to the Diet (Parliament) regarding the forestry policy measures which the Government intends to follow-up in the fiscal year.
4. The Basic Plan for Japan's Forest Resources, periodically amended.
5. Several other legal instruments (e.g. Forestry Cooperatives Law, Protection Forest Arrangement Law).

The legal objectives of the Japanese forestry policy are:

1. Coping with the development and growth of the national economy and progress, and improvement of human welfare.
2. Eliminating inequality between forestry and other industries due to natural, social and economic constraints.
3. Increasing forest production and improving forest productivity.
4. Increasing income of those engaged in forestry to improve their social and economic status.
5. Achieving stable forestry development.

These objectives are targets to be achieved through national and regional efforts and also the efforts of individual organizations.

For individual forest owners, private sector forestry policies are indicative, nominal targets. In most cases, the Government of local authorities have no power to restrict any activities or to order any compensatory measures, except in cases concerning the management of protection forests and conversion of forest land for other uses. Forestry cooperative associations play a major role in local forestry as cooperatives for forest owners. In 1984, there were 1,804 cooperative associations with about 1.78 million members. Fifty-five percent of forest owners belong to these associations, with 75% of the total area of private forests. They carry out 74% of total silviculture activities and 12% of roundwood production. One-third of forest land has been designated as protection forest. In order to encourage forestry and forest industry activities, promote development of mountain areas, and develop forests for providing greater benefits to the public, special emphasis has been placed on:

1. The enrichment of forest resources and promotion of forestry production through reforestation programmes and the establishment of forest road networks.
2. The promotion of the forest's functions for the public benefit, establishing protection forest and erosion control programmes.
3. The promotion of the demand for lumber, streamlining the timber industry and stabilizing the supply of and demand for forest products.
4. Encouraging forestry management activities, promoting the integration of local forests with a system for the stable supply of domestic timber.

5. The training of forestry workers to promote the development of mountainous areas.
6. The improvement of national forest management.

Forestry Policy in India:

The need to review the forestry situation of the country and to evolve a new strategy for forest conservation led the Government of India to modify its 1952 forestry policy and to approve a new policy in December 1988. Among the basic objectives of the new Forestry Policy are the following:

1. Maintenance of environmental stability.
2. Conservation of the natural heritage by preserving the remaining natural forest.
3. Control of soil erosion, denudation and desertification.
4. Substantial increase of the forest and tree cover and its productivity to meet fuelwood, fodder and forest produce requirements, especially of the rural and tribal populations.
5. Encouraging the efficient utilization of forest produce and maximization of wood substitution.
6. Mobilizing people's participation in the achievement of forestry policy objectives.

The derivation of direct economic benefits will be subordinated to ensure environmental stability and the maintenance of ecological balance, including the atmospheric equilibrium which is essential to sustaining all forms of life.

The national goal is to have a minimum of one-third of the total land area of the country under forest or tree cover, of which two-thirds should be in hilly and mountainous regions in order to prevent erosion and land degradation, and to ensure the stability of the fragile ecosystem.

The strategy to be followed includes actions geared to:

1. Afforestation, with emphasis on fuelwood and fodder development.
2. Social forestry and farm forestry.

3. Sound technical management of the forests with due consideration to:
 - carrying capacity of the forests;
 - the use of rights and concessions of rural people;
 - wildlife conservation.
4. Safeguarding against the diversion of forest lands for non-forest purposes.
5. Containing shifting cultivation.
6. Arresting damage to forests from encroachment, fires and grazing.
7. Regulating the forest-based industries.
8. Inculcating in the people an interest in forest development and conservation through extension programmes.
9. Improving forestry education and training.
10. Developing and strengthening scientific forestry research.
11. Improving government policies in personnel management for professional foresters and forest scientists.
12. Maintaining sectoral updating of information.
13. Creating appropriate legislation, supported by adequate infrastructure, of Central and State levels in order to implement the forestry policy.
14. Making investment of financial and other resources available on a substantial scale.

Forestry Policy in Thailand:

The national forestry policy of Thailand is considered as providing long-term guidelines for forest conservation, management and development. It was established to maximize national, social and economic benefits and national security, while also providing sufficient measures for environmental protection.

Emphasis has been given to harmonizing the utilization of forest resources and other natural resources, sharing roles and responsibilities between various government agencies and the private sector to achieve the objective of providing perpetual direct and indirect benefits to the country. The national goal is

to have 40% of the country under forest (15% as protected forests for natural conservation, recreation and environmental purposes and 25% as productive forests). Land with slopes of 35° or more shall be designated as forest land.

The national forestry policy specifies the following responsibilities, especially for the State:

1. Promotion of reforestation by the public and private sectors, using incentive systems in the latter case.
2. Conservation and protection of the natural environment, not only in rural areas but also in cities.
3. Establishing a forest development plan as an integral part of the national, social and economic development plan.
4. Improving the efficiency of timber production through appropriate management techniques.
5. Encouraging integrated wood-using and pulp and paper industries.
6. Promotion of energy plantations to substitute fossil energy by wood energy.
7. Establishing guidelines to deal with forest degradation (forest fires, forest clearing, shifting cultivation, etc).
8. Increasing public awareness through extension programmes.
9. Stimulating science and technology to increase the efficiency of agricultural production.
10. Harmonizing human resource and rural settlement, planning natural resources management and conservation plans.
11. Establishing appropriate legal tools to support forest resources, conservation, and utilization.
12. Reorganizing and strengthening the national forest administration.

Forestry Policies in the Near East

Forestry Policy of Sudan:

Fifty-three years after its first forestry policy was drawn up (in 1932), the Government of Sudan approved a new forestry policy in March 1986, the main orientation or points of which are:

1. Felling must be concentrated in forest reserves, according to licenses and working plans; outside these areas felling is subject to official approval. Compensatory replanting must follow any felling activity.
2. Land allocation for agriculture or other investment must involve the use of resulting raw materials from these areas for energy or other purposes.
3. Forestry activities must incorporate the participation of local and rural communities, as well as encouraging the private sector and private landowners.
4. Restriction of rights and privileges without depriving local people of the possibility of obtaining their basic home needs in forest products should be applied, where necessary.
5. Gum gardens and production of gum through the use of good quality seeds, incentives, and rewarding prices must be developed.
6. Coordination and collaboration between public and private institutions to control and halt desertification is emphasized.
7. Scientific and technological development must support the meeting of national and regional needs, particularly in areas lacking forests.
8. Forests must play their part in the promotion of agricultural production, the strengthening of forestry extension, and the provision of recreational facilities; and the need to improve and make forestry activities more efficient is also emphasized by the new forestry policy.

To achieve these objectives, and in view of the dangers of desertification and the growing need for forest products and services, a long-term target has been set to have about 20% of the total land area of the country as forest reserve estate. It was also decided that about 15% of the area of any rainfed agricultural scheme and 5% of any irrigated scheme must be kept under forest for production and protection purposes. The responsibility for administration and management of the forest is shared between the center and the regions.

Forestry Policies in Africa

Forestry Policy of Senegal:

The main objectives of the sectoral policies of the country can be seen in the Seventh Four-Yearly Socio-Economic Development Plan (1985-1989).

Of all the constraints that hamper the development of the forestry sector, the most serious is desertification, which involves, among other consequences, the degradation of ecosystems and their productivity. This is the factor which guides the actions of this sector of the economy, which are oriented to:

1. Fighting desertification caused by both natural and human causes.
2. Satisfying the people's need for natural products.
3. The conservation and management of the biotic communities and fighting forest fires.
4. Management of the forestry reserves.
5. Restructuring, management and development of local community forests and supporting reforestation by rural people.
6. Development of wood-based energy sources.

Apart from forest management and the inventory of the forest in the South and East of the country and the protection of agricultural plantations, the main objective of the Seventh Plan is the protection, by the end of the Plan period, of 238,600 hectares of land and the construction of 1,000 kilometers of barrage.

Among the priority action programmes of the Seventh Plan related to forestry can be mentioned those oriented to:

1. Making the rural producers more responsible, encouraging their grouping and the establishment of cooperatives or rural associations.
2. Improving the agricultural production environment, rationalizing the management and distribution of production factors, improving research related to soil regeneration, and improvement of the vegetative material and protecting cultures, seeds and harvests.
3. Fighting desertification, restructuring, and managing the forest estate; conserving and managing the biotic communities and protecting them against forest fires; and increasing the green areas and forests of the rural communities, supporting reforestation by the people.
3. Decreasing energy dependence, limiting the consumption of imported energy, and encouraging the production and consumption of local energy.
4. Decreasing the consumption of energy-destructive elements of the environment (fuel and fuelwood).

Forestry Policy in Zaire:

The Constitution of Zaire states that all forest lands and the resources on them belong to the State. The policy objectives of the country can be summarized as follows:

1. To stimulate forest industry to obtain the production of 6 million cubic meters by the year 2000, of which 5 million cubic meters would be exported.
2. To restore the national forest heritage to ensure sustained growth without eroding the capital.
3. To preserve and reforest the Limba Forest of Lower Zaire and concentrate future development in the Cuvette Centrale.
4. To promote the export of value-added products by requiring 70% of the exported volume to be processed.

From the industrial point of view, the Government promotes investment in forest industry by minimizing the risks associated with variations in supply. The total area reserved for a guarantee cannot exceed 250,000 hectares, with an annual logging plan approved on a year-by-year basis, but forming part of a five-year plan.

The Five Year Plan (1986-1990) outlines institutional reforms to support private investment in priority sectors. The modifications include the reform of fiscal tax policies for industries and the reform of import and export taxes in order to simplify and restructure rates.

Forestry Policies in Latin America

Forestry Policy in Brazil:

At the moment, the Government of Brazil is drawing up a new forestry policy for the country, based on the orientations and principles established by the recently approved new Constitution (October 1988). As it can be useful to understand which are the main national guidelines for the environment set up by the Brazilian Constitution, a summary of those which are relevant to the purposes of this paper is given below.

It is recognized that the environment is a heritage of the people on which the good quality of life depends. This means that the Government must protect and preserve it for present and future generations. To assure this, the Government must:

1. Preserve and restore the essential ecological process and provide for the ecological management of the species and ecosystems.
2. Preserve the diversity and integrity of the national genetic stock and control the entities that are carrying out research and manipulating genetic material.
3. Define areas of land to be protected in all the Federal States of the country. In these areas, only legally approved activities can be allowed.
4. Request studies on environmental impact to be publicized, previous to any activity that could be potentially dangerous to the environment.
5. Control the production, commercialization and use of techniques, methods and substances dangerous to life, the quality of life and the environment.
6. Promote environmental education at all educational levels and of the general public.
7. Protect wildlife and flora, avoiding any activity dangerous to their ecological function, or which can lead to their extinction.

Finally, it is established that the Amazonian Forest and other relevant and very specific forest areas are considered a national heritage and their utilization must be in accordance with specific laws, safeguarding their contribution to the environment and the use of the natural resources. In relation to the Amazonian ecosystem, a special programme has been created to:

1. Restrain predatory actions which threaten the environment and renewable natural resources;
2. Create an environmental protection system.
3. Carry out an environmental education process.
4. Regulate the occupation and rational exploitation of the legally defined Amazonian region, giving due consideration to land management techniques.
5. Regenerate ecosystems affected by entropic action.
6. Protect the native communities and the rural people involved in the utilization process.

Special committees have been established to define more concrete forestry policies and to develop the Constitutional

orientations as well as different specific policies, taking into consideration the variety of forest ecosystems within the country, as well as its socio-economic diversity.

Forestry Policy in Chile:

The general policy of this country is the maximum diversification of the national economy, and the forestry sector has been one of the sectors that has played a fundamental role in this perspective.

The Chilean forestry policy is based on the harmonization and conjunction of the responsibilities of both the public and the private sectors. To the public sector are assigned the coordinating, directing and controlling functions, and to the private sector the operative functions of the programmes.

The defined general forestry objectives are to conserve, protect, increase, recuperate and utilize the forest resources for the benefit of national development, assuring the most adequate ecological balance of the national land and the best use of the land resource together with the agricultural and livestock sector.

The following orientations were established to help in the attainment of these objectives:

1. Regrouping of all the dispersed forest functions within one organization to rationalize the sectoral activities.
2. Assignment to the private sector of the preponderant responsibility for productive forestry activities, from reforestation to increased industrialization.
3. Adaptation of the regulations concerning land tenure to the productive characteristics of forestry, especially in relation to the extensive character of forest management.
4. Reallocation and development of forestry industry, taking into consideration the real possibility of obtaining adequate supplies of raw material from natural or manmade forests.
5. Provision of fiscal incentives for private plantation in forest lands.
6. Participation of the private sector in the utilization of productive State forests, taking into due consideration the conservation and management norms established by the forest law and the Forest Service. State protected forests are excepted from this possibility.

To achieve the general objectives, the national policy specifies the following aims:

1. Conservation:
 - rational conservation and utilization of the forest resources under the principle of their multiple use;
 - absolute protection of the protected area (National Parks, Scientific Reserves, etc.);
 - conservation and economic valorization of the national flora and wildlife; and
 - conservation of the natural environment, harmonizing development with the quality of life.
2. Protection:
 - protection of the national forest resources through preventive detection, controlling and taking action against destructive agents.
3. Improvements:
 - improvement of the composition of the native forests which have been degraded by irrational exploitation;
 - restoring and obtaining a more adequate balance of the water/land/vegetation systems;
 - restoration of degraded lands;
 - increase of the national forest wealth through appropriate plantation programmes; and
 - establishment of new forest areas to satisfy the increasing demands of forest industries.
4. Utilization:
 - maximum utilization of the forest resource potential, taking into consideration the principle of its sustainability and permanent increment;
 - rationalization of the utilization systems adapting forest management to the basic norms of sustained yield; and
 - support to regional rural development and projects of high economic profitability.
5. Research:
 - promotion of coordinated forestry research oriented to improving forest utilization.

6. Training:
 - satisfying the training needs of forest workers in both public and private enterprises.
7. Extension and Technical Assistance
 - dissemination of technical and economic information to allow better use of the national forest resources in relation to the national interest.
8. Forestry Institutions:
 - assignment to the sector and to its institutions the appropriate levels of priority and hierarchy to allow the achievement of its objectives.

WORKING GROUP RECOMMENDATIONS

GROUP RECOMMENDATIONS
On
SOCIAL-ECONOMIC CONDITIONS

Chairman: Dr. G. M. Khattak³
Rapporteur: Dr. M. Afzal

We have long held that forest destruction in Pakistan is caused principally by the poverty of people living close to forests, which forces them to cut trees to meet their own needs and also to sell the wood for cash income. In addition, they graze a large number of poor quality livestock in the forests. To ensure forest protection we have, therefore, been advocating the removal of the people from around the forests, or at least the curtailment of their rights in the forests, and the enhancement of punishments for forest offenses.

In this working group we were able to take a fresh look at the problem and challenge the very basis of the management of our forests. The main objective of managing our forests so far has been to produce timber and firewood for sale to the highest bidder. Was this the correct approach? Is it more important to effectively perpetuate the forests and improve the quality of life of the people residing in the vicinity of forests, or to increase forest revenues by a few lacs of rupees?

We asked ourselves the question: Why are we still practicing the forestry of the nineteenth century though conditions have changed so drastically? We came to the conclusion that the main reason is our myopic forest education. It is crammed into two years, with overwhelming emphasis on memorizing the definitions of technical terms in the physical and biological sciences.

I will now briefly go over the various issues that we identified in the Working Group and the recommendations we made.

Social Forestry:

The first issue concerning social forestry deals with improving the forester's communication skills. Foresters have done

³ Recommendations were presented to the seminar participants by the Group Chairman.

a fine job in social forestry, just as they have in most other responsibilities they have been entrusted with, because of their sheer dynamism. But are they fully qualified to undertake social forestry, which is very different from production forestry? Would their performance not be even better if they were imparted the skills needed to effectively communicate with rural communities and to motivate rural people to plant and manage trees? Specific recommendations are:

1. Reorient forestry education to produce professional level graduate foresters, providing also for post-graduate education in social forestry.
2. Restructure the Forest Departments, creating a specialized wing for social forestry staffed at the executive level by foresters with post-graduate degrees in social forestry; and at staff positions by specialists in the relevant social sciences.
3. Broaden the professional base of the Forest Departments by providing for entry and advancement of specialists in disciplines other than conventional forestry.

The second issue concerns the creation of a basic infrastructure for social forestry. The working group recommends that a basic infrastructure be created for retaining personnel posted to social forestry. The infrastructure must provide at least essentials, i.e. housing and transportation.

The third issue concerns providing a legal framework that is conducive to social forestry. Our forestry laws and rules deal mostly with the protection of state owned forests from damage by the people and their livestock. Also, a number of their provisions act as serious disincentives to the propagation of social forestry. Working group recommendations are:

1. Amend laws, rules and procedures to remove disincentives to social forestry.
2. Pass new laws to create positive incentives for social forestry.

The fourth issue concerns removing major hurdles which hinder the spread of social forestry. A number of major hurdles are hampering the rapid spread of social forestry in Pakistan; such as small land holdings, feuds among village groups, absence of viable rural institutions for group action, and lack of ready markets for wood produced in excess of local demand. Specific recommendations are:

1. Preferably choose areas for social forestry where Area Development Programmes are in operation so that forest tree planting becomes an integral part of a multisectorial thrust aimed at increasing the incomes of the local people.
2. Wherever possible, promote the development of wood-based industries to provide a ready market for wood which is in excess of the requirements of the local communities.
3. Mount a vigorous program of research on group dynamics in mountain communities to understand the processes and use the results to improve the effectiveness of social forestry programmes.
4. Make full use of existing rural institutions in creating and managing village plantations. Where no viable rural institutions exist, they might be created as part of social forestry projects.

The fifth issue related to social conditions concerns reducing the rate of population growth in the mountains. Unless the high rate of population growth in the mountains is controlled, it will not be possible to prevent serious deterioration in the quality of human environment. The working group recommends that a vigorous program of population control be launched in the mountains.

Commercial/Industrial Forestry:

A very important issue related to commercial/industrial forestry concerns improving the economic conditions of the communities residing in the vicinity of forests. As I mentioned at the start of this presentation, the most important factor causing the destruction of forests in Pakistan is the poverty of the communities living in the vicinity of forests. So far we have been trying to protect the commercial forests from use by the local people. Except for grazing and collection of dead and fallen wood, the production of timber from forests is for sale to the highest bidder. The working group has serious reservations about that approach. It dates back to the nineteenth century when Reserved Forests were managed for the Imperial interest and the forest's benefits were totally denied to the local people.

In Pakistan today, forests generally occur in the most backward parts of the country which lack any other resources for their development. The current practice of exporting all timber from such areas in the most unfinished form (as logs) is tantamount to a continuous net transfer of resources from the most disadvantaged parts of the country to the most advantaged, without a commensurate return of resources for the development of the people in the mountains. This is most invidious and needs immediate

rectification. Towards this end this working group makes the following recommendations:

1. Install wood-based industries as close to the forests as possible, and process timber at these facilities to as advanced a stage as possible so the benefits of value added are disseminated to the local people.
2. Meet the full needs of the people living close to the forests, for forest products, at prices which they can afford.
3. Start managing the Protection Working Circles of all the forests where growth conditions are favorable, for the production of timber, firewood and grazing for maximum benefit to the local people.
4. Intensify the management of privately owned forests and direct management solely to the long-term economic benefit of their owners.

Watershed Management and Range Management:

In many ways the issues related to watershed and range management parallel those in social forestry. This first issue concerns improving the forester's competence in skills needed in watershed and range management. Specific recommendations are:

1. Reorient forest education to provide a well-rounded professional education at the Bachelor of Science level, followed by specialization in watershed management and/or range management at the post-graduate level.
2. Restructure the Forest Departments by creating specialized wings for Watershed Management and Range Management, staffed at the executive level by foresters with post-graduate degrees in these specializations, and at the staff positions, by specialists in other relevant sciences such as horticulture and animal husbandry where necessary.
3. Broaden the professional base of the Forest Departments by providing for the entry and advancement of specialists in disciplines other than conventional forestry.

The second issue concerns the creation of a basic infrastructure for watershed and range management. The working group recommends that a basic infrastructure be created for retaining personnel posted to watershed management and range management. The infrastructure must provide at least essentials, i.e. housing and transportation.

The third issue concerns providing a legal framework for implementing effective programmes in watershed management and range management, and the amendment of existing legislation and rules and procedures that are not conducive to watershed and range management.

The fourth issue concerns removing major hurdles which hinder the popularization of watershed management and range management. Specific recommendations are:

1. Start a vigorous program of research on group dynamics in human communities to understand the processes and use the results to improve the effectiveness of watershed and range management programs.
2. Utilize to the fullest extent possible the existing rural institutions in propagating watershed and range management. If none exist, they might be created as a part of these programs.

GROUP RECOMMENDATIONS

On

INTERSECTORIAL LINKAGES

Chairman: Sardar M. Habib Khan⁴
Rapporteur: Mr. T. A. Ansari

When examining the forestry sector, Pakistan's low-forest resource base, its deterioration over the years, and the lack of requisite progress in the implementation of old forest policies should each be considered in light of intersectorial linkages. Inadequacies of funds and non-involvement of people, as well as the age-old structure of the forest organization, should also be considered in that context.

The working group believes problems have remained unresolved due to:

1. Lack of coordination and workable mechanism between Government agencies and the local population.
2. Failure to clearly delineate administrative and operational responsibilities of the various governments and their field agencies.
3. Weak institutional structure to implement landuse policies on a scientific basis.

Notwithstanding some contrary views on the role of the Forest Departments, the only agencies having experience and expertise in the management of forests, rangeland, wildlife, watershed and social forestry are the Forest Departments. Until such time as some special organizations develop and reach the stage of maturity in these disciplines, the Forest Departments should continue to have the responsibility for the multiple use of forest resources, with the provision that in the development and execution of the management plans all relevant interests and agencies will be intimately associated.

Management of watersheds should be developed on the basis of catchments, in collaboration with local people, livestock owners,

⁴ Recommendations were presented to the seminar participants by the Group Chairman.

and government agencies having responsibility for some landuse in the area concerned. Since watersheds are not limited to provincial boundaries, there is need for a body of specialists at the Federal level to provide direction for watershed management and to monitor the implementation of the programmes by the political units which have the operational responsibilities.

Stimulation of social forestry should be assigned a place of high priority in order to increase and diversify both forest and agricultural production, control land degradation, and improve environmental conditions for the country's urban and rural population. It will involve technical assistance, marketing services and credit to individuals and communities to encourage a combination of agricultural, livestock and forestry production.

There should be close liaison of the Forest Departments with wood-based and mining industries with a view towards:

1. Meeting the immediate needs of the industry from the existing forests, under mutually agreed terms.
2. Assessing the needs of these industries for the next 10-15 years and developing plans to grow short-rotational industrial crops or/and lease out State lands to the industries for developing plantations to meet their requirements.

The new role of foresters as managers of a multiple use resource calls for restructuring, training and research programmes, in collaboration with the universities and the provincial research and educational institutions.

An advisory board should be established, consisting of the representatives of the public and different segments of forestry and related sectors. The functions of the board should be to ascertain the views and reactions of the public and other relevant elements, and, therefore, make suitable recommendations to the government on issues of forest policy.

Based on these considerations, the working group makes the following recommendations:

1. The Forest Departments happen to be the only agency with expertise to manage forest resource for multiple use, i.e. production of wood, water, fodder, wildlife and recreation. In order to optimize production and expand the resource base, it has to collaborate with and involve all relevant elements--people living near the forests, industrialists, and government agencies having responsibility for some sectors of landuse.

2. Since management of watersheds involves different political units and agencies, it is necessary to have a group in the Ministry of Food, Agriculture and Cooperatives to provide direction and to monitor the programmes.
3. The implementation of forest policy should be kept under constant review by a non-governmental advisory board which can take suitable recommendations to the government on the basis of its assessment of the results of the policy implementation.

GROUP RECOMMENDATIONS

On

FORESTRY RELATED LEGISLATION

Chairman: Dr. M. Ashraf⁵
Rapporteur: Mr. Anwar Masrur⁶

The forest laws of Pakistan were introduced by adopting old legislation, like the Indian Forest Act of 1927. These laws were developed to implement a system of protection and conservation of the resource in which emphasis was given to implementing the forest policy of 1894.

Conditions have changed substantially since then. Large increases in population have brought increasing pressure on the forests to meet the needs of the local populations for grazing lands, for fuelwood, poles and other forest products. General apathy towards the welfare and development of the forest resource continues.

Forests and rangelands as watersheds are of critical importance in maintaining favorable conditions of water flow and as habitat for wildlife, and rare and endangered species of plants and animals. The recognition of the environmental importance of these lands is increasing.

It is, therefore, desirable to conduct a review of all the existing forest laws to ensure that they provide a sound statutory basis for the practice of forestry and related wild land management activities in Pakistan. The working group recommends that:

1. The acts and laws which have become redundant be deleted from the statute book.
2. Dependence on punitive legislation may be gradually reduced and more reliance placed on education, cooperation and participation of the people by consulting them at the time of law formulation.

⁵ Recommendations were presented to the seminar participants by the Group Chairman.

⁶ Served as Honorary Rapporteur.

3. Prevention, rather than punishment, should be the future guideline in matters of checking forest offenses and for this purpose, foresters may be made as much accountable under the law as are the offenders; at least in cases of serious forest offenses.
4. A separate study be made on the application and enforcement of forest laws in order to overcome the difficulties of delayed decisions, inappropriate punishments, and improper use of forest laws by the public servants. In fact, timely and correct application of forest laws has been the main problem.
5. Within the constitutional framework of the Government of Pakistan, forestry is recognized as a provincial subject. Thus, a federal forest policy may include a model forest law which should be suggested for adoption by the provincial governments.

These general recommendations may be considered in conjunction with the specific subject area ones which follow.

Forests, Watersheds and Rangelands:

The working group recommends that policies for the management of watersheds and rangelands be incorporated in basic forest policy legislation. Emphasis should be placed on establishing a statutory authority for management of these resources by the Forest Departments. The main task would be revising and updating the Pakistan Forest Act. Emphasis should be given to obtaining management direction through technical assistance and incentives, rather than coercion. However, the need for efficient law enforcement must be recognized. The working group notes that an exercise for this purpose was undertaken a few years ago and this fact may be kept in view in order to save time and effort.

It is particularly important to clarify the rights of the local people to graze and utilize the forest for fuelwood and other forest products. Rational management schemes cannot be developed or implemented until this jurisdictional issue over rights and concessions is resolved, which the working group strongly recommends be undertaken as soon as possible.

Social Forestry:

It is recognized that the forest resources on government owned lands are not adequate to meet the wood product needs of the country. It is, therefore, necessary to look at other potential sources of wood products. It appears that social forestry or farm forestry programs have great potential to help meet the wood needs

of the nation, particularly the needs of the rural farming population. It is, therefore, appropriate that the field of social forestry be given statutory recognition within the overall framework of forest policy for the nation. Because the jurisdiction over social forestry activities is not settled, it is suggested that legislation assigning social forestry activities to the Forestry Departments be adopted. This is a logical approach given the Departments' expertise in growing, tending and harvesting trees.

The working group believes that social forestry programs can be most appropriately implemented on a voluntary basis and the role of Government should be to provide technical assistance and incentives for the implementation of appropriate tree planting and conservation practices.

Wildlife and Environment:

The existing forest laws do not adequately emphasize the important function of forests, watershed and rangelands as wildlife habitat or for other special environmental values. Nor do they recognize that Pakistan is a signatory to a number of international conventions, and needs to have a statutory basis for carrying out the responsibilities thereunder. The working group, therefore, suggests that:

1. The British definition of wildlife, which includes wild plants and endangered plant species as well as wild animals, be adopted which would allow protection of plants, including 372 which are endemic to Pakistan.
2. The schedules appended to various Forest Acts need to be revised to include those endangered game species which are not listed at present. The possibility of "reverse listing" also needs to be considered, i.e. listing of animals and birds for which hunting is not prohibited or restricted.
3. The use of pesticides in and around wildlife sanctuaries and national parks needs to be regulated by law, and so should the conflicting forestry practices and duplicate legal designations.
4. Captive breeding of endangered wildlife species be allowed in the private sector.
5. A study be made of the Pakistan Environmental Protection Ordinance of 1983, in order to fix the statutory role of the Forest Departments in preserving and improving the environments. A study of all the existing laws for protection of threatened and endangered species be made in order to identify what improvements or amendments are needed.

6. National parks, sanctuaries and reserves be established only after studies on the potential of the areas and requirements of wildlife and plants are carried out. Restrictive classifications should only be applied to meet special habitat or environmental needs.
7. People need to be fully consulted and laws published in Urdu and other local languages to gain public understanding and support.

Intersectorial Issues:

The working group is of the view that problems of intersectorial collaboration need to be thoroughly studied before legislative proposals can be suggested.

GROUP RECOMMENDATIONS

On

FUTURE OBJECTIVES AND DIRECTION

Chairman: Mr. W. A. Kermani⁷
Rapporteur: Mr. A. S. Bokhari

One of the fundamental roles of the Government in promoting the development of forestry in Pakistan is to formulate a Sector policy consistent with the overall rural and agro-industrial development, contributing not only to economic growth but also to environmental protection. Since forestry operates in a vast external environment, having linkages with other land uses, the working group feels that the forest policy should be finalized as a legislative document both in the Federal and Provincial assemblies so as to make it obligatory to all parties concerned with its implementation. The working group also feels that with the passage of time, new priorities have emerged as a result of:

1. Increased demand for fuelwood brought about by energy crisis.
2. Increased demand for sawn wood, panel products and newsprint brought about by change in the style of living.
3. Need for the protection of critical watersheds to safeguard agricultural productivity.
4. Growing concern for ecological deterioration.
5. Worldwide emphasis on the adoption of participatory approaches to development.

Since all these priorities have important implications, they should be adequately addressed in the national forest policy.

The working group considered, in-depth, the environmental problems of the country, which are serious and growing with the increase in population. It came to the conclusion that forestry, ecology, and environmental issues are all closely interlinked. Biological characteristics of ecology, forestry and environment are such that they do not lend themselves to regional management. The

⁷ Recommendations were presented to the seminar participants by the Group Chairman.

SAARC Summit, December 1988, has already taken note of this aspect of the problem. Ecology and environment are already on the concurrent list of subjects in the Pakistan Constitution. It is only fair that forestry should also be brought on to the concurrent list as has already been done in India since 1976. Moreover, the existing forestry division in the Federal Secretariat should be renamed as the "Forestry and Environment" Division with corresponding change in the provincial governments, so that they can assume the responsibility for sustainable environmental protection.

The working group critically appraised the ability of the Ministry of Food and Agriculture (Forestry Wing) to manage the Nation's forests and other natural resources and came to the conclusion that, at present, it does not possess the requisite capacity to oversee forestry programs in the provinces. The Inspector General of Forests, being the senior most spokesman of forestry related activities in Pakistan, must have adequate authority to design and monitor outreach programs; otherwise, it would neither be possible to achieve environmental stability nor improve the management of forests.

The working group noted with concern that encroachment of forest lands has been on the increase in the recent past. It was of the opinion that this trend must be arrested forthwith. On one hand, there should be no regularization of existing encroachments; on the other, there should be no withdrawal of land from forest use without the prior approval of the legislature.

Social Forestry:

Now that the demand for forest products has increased tremendously and additional land is not available for transfer to the Forest Departments, it has become essential to extend forestry activities to private farmlands. Luckily, there is keen interest on the part of the farmers to adopt forestry on marginal lands or degraded fallow lands as it provides additional income and employment to rural communities. The working group, therefore, feels that social forestry programs based on multipurpose tree species, such as mulberry for fodder and fuel, should be launched in a big way so as to meet the energy requirements of the rural population in the shortest possible time.

Out of a total geographical area of 87.98 million hectares, the cultivated area and the cultivable waste account for 31.73 million hectares, which can respond to social forestry programs quite easily. The working group strongly feels that while planning these activities, it would be necessary to map all areas according to their land capability classification for forestry purposes and to prepare an inventory of tree growth on private farms, using the most appropriate sampling design so as to establish a bench mark.

for monitoring subsequent progress. The working group also recommends:

1. A special cadre of social foresters should be established in order to disseminate the techniques of raising trees on farmlands, to educate the farmers on the role of windbreaks/shelterbelts in conservation farming and about the economics of growing trees along with agricultural crops.
2. Decentralized "kisan" nurseries should be promoted throughout the country in order to ensure the availability of plants in terms of number and species.
3. To encourage the expansion of social forestry and to increase the production of industrial woods on private lands, a forestry grant scheme should be introduced with the help of institutional financing.
4. Women can make an important contribution in the success of social forestry programs and they should be involved in all appropriate operations.
5. A workable framework should be established to start programs for the establishment of green belts in urban, industrial and arid lands so as to check erosion, pollution and desertification.
6. Elected representatives of the people at the grassroots level should be involved not only in the motivation and education of the village communities, but also in the planning and implementation of projects and programs.

Commercial/Industrial Forestry:

Irrigated plantations, which cover nearly 75000 hectares of land, are perhaps the most important forest resource in the Punjab and the Sindh. They are in direct competition with agriculture, as they occupy some of the most fertile land in the plains and use substantial amounts of irrigation water which is becoming increasingly scarce. At present, they have not only stagnated in productivity, but their management has also become obsolete.

The working group believes that they should be managed on the basis of relative economic efficiency. As a matter of policy, they should no longer be treated as fuelwood plantation. Instead of growing traditional fuelwood species, they should be switched over to produce industrial raw material. To achieve this objective, it might be necessary to mechanize some of the operations, such as land preparation, harvesting, water lifting, etc., which would make the enterprise a little more capital intensive.

The working group thinks that it might be possible to involve private sector in raising industrial wood plantation on a partnership basis in which the land and the expertise may come from the Government and the capital from the private entrepreneurs. In areas where private sector is shy to come forward, industrial woods should be raised departmentally by improving the internal irrigation system. The working group also recommends:

1. Information on market trends in value added items should be regularly collected in collaboration with the Ministry of Industries so that planning for the production of raw material for specific industrial units gets streamlined.
2. Efficient utilization of forest produce should be encouraged and substitution of solid wood should be maximized.

Watershed Management:

At present, forests in the mountains, which occupy nearly 1.96 million hectares under conifers and 1.72 million hectares under scrub species, are considered revenue producing assets. This has led to several undesirable practices resulting in over exploitation. Prudence demands that a severe restraint should be exercised on the utilization of this resource.

The working group feels that the hill forests call for a distinct public policy, as there is a strong relationship between upstream resource conservation and sustained forest production downstream. The following policy guidelines are suggested in this regard:

1. The public and private lands in the hills, including protection and commercial forests, should be subject to integrated management strictly in accordance with strict sound ecological and economic principles, incorporating, inter alia, the conservation of environmental values.
2. An inventory should be prepared of the denuded watersheds on the basis of stock maps. Their rehabilitation should be taken up on "war footing". The job should be completed by the year 2000 under a phased program to be monitored by a committee consisting of foresters and peoples representatives.
3. To reduce the rate of siltation of water storage reservoirs, cultivation of lands with more than 20 degree slope should be prohibited by law.
4. Suitable projects, integrating forestry with farming, should be conceived and implemented on a large scale.

5. Rural development activities should be stepped up in catchment areas so as to improve socio-economic conditions of the hill communities and the forest workers. In the long run, this will result in the improvement of forests.
6. Private rights should be frozen at the present level so that they don't multiply with the increase in the population. Only those rights should be admitted which are compatible with the carrying capacity of forests.
7. The system of forest cooperative societies, which is based on the principle of interactive participation and which has been in vogue in the Hazara Civil Division since 1981, should be continued under regular vigilance so that the beneficiaries get educated in sustained yield management.
8. Forest contractors should be eliminated from areas where they are still operating.

Wildlife & Natural Environment:

The following policy guidelines are suggested for wildlife management in Pakistan:

1. Periodic surveys for the collection of data pertaining to the country's wildlife and the preparation of management plans for their protection and the improvement of their habitat.
2. Measures should be taken to ensure the survival and multiplication of endangered species of birds, animals, reptiles and plants.
3. Periodic review of existing wildlife conservation laws so as to ascertain their adequacy in relation to changing socio-economic conditions.
4. Promotion of public relations and education to inculcate the love for wildlife.
5. Establishment of game reserves, national parks, and wildlife sanctuaries.
6. The forest working plans should have specific prescription on the provision of living space for the wildlife in the forests.
7. Control on international trade in wildlife products.
8. NGOs and PVOs should be encouraged to participate in conservation activities for maintenance of biological diversity and for the promotion of tourism in suitable areas.

9. Harvest of wildlife on a sustained yield basis.
10. Implementation of international obligations under the conventions and memberships.
11. Where the predominant concern is wildlife conservation, silvicultural practices should be subordinated and monoculture discouraged.

Rangelands:

Range management, as a scientific discipline, was introduced in Pakistan in 1954. Several projects were initiated in Thal, Cholistan, Tharparker, Kohistan and Quetta. No appreciable headway has so far been made for want of a clear policy on the subject. The working group suggests the following guidelines in this regard:

1. All rangelands should be developed for livestock production consistent with the multiple landuse concept.
2. The alpine pastures, which are valuable forage producing areas, should be brought under scientific management.
3. Grazing allotments should be created to induce livestock owners to invest private capital in range management.
4. To minimize over grazing of rangelands, surplus livestock should be utilized by creating facilities for offtake.
5. Reseeding the depleted rangelands with high yielding grass and planting of fodder trees/shrubs should be undertaken to increase the availability of green fodder.

GROUP RECOMMENDATIONS

On

FINANCIAL AND POLITICAL SUPPORT

Chairman: Mr. S. K. Khanzada⁸
Rapporteur: Mr. M. I. Sheikh

The goals of the past and current forestry policies (where forestry refers to rangelands, watersheds and wildlife in addition to forests) have been only partially achieved, because the requisite of political and financial support was not forthcoming. This was due to the following facts:

1. There have been competing users and uses for forest resources.
2. There has been a general lack of awareness of the indirect environmental, social and economic benefits of forestry.
3. There have been great increases in population and, hence, great increases in the pressure on forest resources.
4. There has been too much focus on State as opposed to private land and there has been a lack of follow-up and monitoring of progress towards policy objectives.

In order to redress this situation, an explicit commitment by the Forestry Sector towards building political and financial support is needed. In this regard, the working group identified the following policy issues:

1. Inadequate Forestry Support Base:

There is inadequate financial and political support for forestry because the popular base that benefits from and, hence, supports forestry is very limited.

2. Inadequate Benefit to the People:

One of the reasons for the limited size of this base is the fact that forestry has, for a long period of time,

⁸ Recommendations were presented to the seminar participants by the Group Chairman.

focussed on State forests and their protection. Where forestry has attempted to assist the people with forest management, the intensity of management has often been so low that it has produced little sense of reward or support among them.

3. Unpublicized and Unrecognized Benefit to the People:

Another reason for the limited support base is the lack of good public relations, publicity and lobbying. In addition, the holistic concept of environment that is necessary to understand forestry's contributions to other sectors is rare within government. The Forest Departments also may not have the necessary data and expertise to document these indirect benefits.

4. Irregular Distribution Among the People of Benefit and Burden:

A final reason for the limited support base for forestry is that the communities (e.g. in the hills) that are asked to conserve the local forest resources, to their economic detriment, are often not the same as the ones that reap the benefits (e.g. in the plains).

The working group proposes the following course of action to develop a forest policy that will have financial and political support:

1. Interest Group Identification and Dialogue:

First, identify the groups that will benefit from, and hence, can support forestry policy (including groups that receive environmental, as well as economic benefits), and identify also the groups that might be affected detrimentally by a forestry policy and hence are likely to oppose it.

When formulating policy, carry out a dialogue with all of these groups who stand to either benefit from a forestry policy or will be affected detrimentally by it.

In addition, prepare an economic analysis of successful forestry projects to use in lobbying for government support. Obtain the necessary funds to mount this extensive public relations and lobbying campaign to develop the political and financial support that forestry needs.

2. Policy Objectives:

Planning:

- Formulate policy objectives specific enough to make it possible to monitor progress towards their achievement, but

not so specific as to constrain implementation.

- Place specific targets to attain policy objectives in the 5-year Plans, which should be derived directly from the forestry policy.
- Develop a system of management planning that will derive management plans from socio-economic data, will calculate financial budgets accordingly, and will modify targets based on actual allocations.

Finances:

- Investigate the possibility of using innovative funding mechanisms, such as retaining income from Forest Department operations, or establishing expanding forestry corporations.
- Create a consolidated, non-lapsable forestry development fund to provide for short-term, high-priority forestry projects.
- Provide government support to private investment in forestry projects.
- Delineate specific areas for foreign assistance, so that this assistance can directly support on-going, long-term forestry programmes, instead of isolated ad hoc projects.
- Ensure that the local communities that are constrained in their use of upland forest resources receive due recognition by government for their contribution to the lowland economy.

Organization:

- Clarify the distinction between indirect social returns and direct economic returns to forestry by creating separate cadres/circles for commercial and non-commercial forestry activities.
- For similar reasons, make the functional classifications of forests more specific, including commercial forests, recreational forests, community forests, watershed protection forests, multiple-use forests, etc.

Data Base:

- Develop a comprehensive data base at the federal and provincial levels, utilizing transfer of technology from foreign donors where appropriate, to enable rapid and focussed

gathering and analysis of data to support specific planning and lobbying needs.

- Ensure recognition of forestry's lesser-known contributions to the GNP, including indirect contributions to other sectors (e.g., irrigation, soil conservation), as well as on-farm production and consumption of fuelwood and timber.

General:

- Don't just make more financial support a goal of policy, make the goal a policy that has financial support built into it, by virtue of promising clear, verifiable economic benefits to important segments of the population.
- Based on the above recommendations, revise the service structure and system of training and research as needed.

3. Policy Implementation:

Establish an on-going system for identifying, communicating with, and winning the backing of a popular support base for forestry policy.

Don't attempt to justify forestry policy in terms of the environment, but utilize environmental theory and logic to explain and justify the arguments based on natural resource economics, regarding forestry's contributions to other sectors.

CLOSING PRESENTATIONS

CLOSING REMARKS ON BEHALF OF FAO

By

Dr. Raymond E. Fort
FAO Country Representative

Your excellency, Federal Minister of Agriculture, Secretary of Agriculture, distinguished guests and participants:

It is again my pleasure to speak on behalf of FAO at this important seminar, and I have just one point to make. We've been talking about policy, forestry policy, and I'd like to make the analogy to the architect of a building. Without a plan, we won't know what the building will look like, we won't know the materials which it will take to build the building, and we won't know which kind of laborers to put to work. It seems to me that we now have plenty of experience in Pakistan and that our forestry planners, with the correct policy, can decide which kind of forestry policy we want, which kind of building we want, what kind of materials it will take to construct the building, and what kind of people it will take to implement the construction. I believe that we have dealt, in this seminar, with these three levels of abstraction: the plan, what it will take to make the plan work, and the kind of people it will take to implement the plan.

I have followed these proceedings with great interest, and I think the recommendations, Mr. Minister, will be very helpful in the future. I would pay special tribute to the initiative shown by the Inspector General of Forests. I think the seminar is of utmost importance and at a very opportune time. Thank you.

CLOSING REMARKS ON BEHALF OF USAID

By

Mr. Albert L. Merkel
USAID Representative

Honorable Minister, Secretaries, and other attendees:

In the last three days I have felt very privileged to witness what I think is perhaps the beginning of a new direction in the Forestry Departments. A direction in which policies and other activities are being formulated, not only by foresters, but with other people in attendance--the private sector people that have been here have had a great deal to say about how past forest policies and activities have affected them.

The foresters have listened, and I believe are taking into consideration these discussions. The fact that foresters themselves are speaking of peoples participation and the need for discussions with people before they undertake management activities is another example of a changing attitude which goes along, I think, with the changing governments in Pakistan. The time is one of extreme interest and very high hopes for all the people involved.

I would like to congratulate you all on your seminar and I would ask the Minister to consider your recommendations. The deliberations during the last three days indicate that the Forest Departments in Pakistan are truly world class. Thank you.

CLOSING SPEECH

By

Mr. Rao Sikandar Iqbal
Honorable Minister of Food, Agriculture & Cooperatives

In the name of Allah the most beneficent and merciful.

Mr. Awal Sher Khan, Minister for Forests, Government of NWFP; Dr. Raymond Fort of FAO; Mr. Isani, Secretary Food and Agriculture; Mr. Abeed Ullah Jan, Inspector General of Forests; distinguished guests, ladies and gentlemen:

It is indeed a pleasure for me to be with the leaders in the profession of forestry from all over Pakistan and from friendly countries. I am glad that you have successfully concluded your deliberations on the important issues concerning Forest Policy and have provided collective wisdom for future directions. I have no doubt that these deliberations will go a long way in providing sound guidelines for the development of forestry in Pakistan.

Forestry is not so well developed in Pakistan, but it is an important means of livelihood for the poor people of Pakistan, especially those of hilly areas. We have only 5% area under forest, which is not sufficient for the country's needs and ecological balance; this area should have been at least 20% of the total geographical area. In the past, the forests have been used mercilessly and there is a serious shortage of fuelwood in the areas where there is no Sui gas. Our population is increasing at a rate of 3%. In order to maintain the present level of consumption, we have to increase our forest area by at least 4% every year. For this purpose, 20 billion hectares of irrigated farmland and 11 billion hectares of rainfed agriculture land offer very good prospects--the full potential of which has not been exploited so far.

If five additional trees are raised per hectare in farmlands, the tree wealth of the country can be increased by 155 million trees per annum. This will not only be a substantial increase in the trees for wood production in the country, but would serve as a source of additional income to the farmers. It is a very firm belief that a great opportunity exists for development of forestry in Pakistan and that it will make the country self-sufficient in tree products provided this work is done with a missionary zeal.

On assumption of my present responsibilities, I had announced that the Democratic Government would formulate a new agricultural

policy for increasing agricultural production and improving the lot of the farming community. I have no doubt that this forum and its deliberations will help us identify some policy guidelines in the important agriculture sector of forestry. The great potential of agriculture and forestry, if properly utilized, can make the country green with trees. For achieving this goal, the foresters will have to leave their traditional role of custodian of State forests and will have to work with the farmers, assuming the responsibilities of social foresters. They will need to be dedicated and use innovative approaches, including the mobilization of the farmers and other manpower. By using technological advances, with the objectives of raising the peoples standard of living and enhancing the contribution of forests to our agricultural output, we can indeed bring about a revolution in this important sector.

This would necessitate an approach which would involve the people in planning, organizing, utilizing and replenishing the forest resources in the country. Such a policy can only be built on the foundation of sound imagination, appropriate initiatives and wholehearted acceptability of the change. It would be a big achievement of this seminar if it helps in increasing such motivation, dedication and willingness to adopt technological change. I have no doubt that the deliberations of this seminar will help to bring about such a change.

In the end, I congratulate you in bringing the seminar to a successful conclusion, and thank you for giving me the opportunity to address it on this important occasion.

Thank you very much once again. Pakistan Zindabad.

VOTE OF THANKS TO THE ORGANIZERS OF THE SEMINAR

By

Sardar M. Habib Khan
Secretary Forests (Rtd.), Azad Kashmir.

Mr. Minister, foreign guests, ladies and gentlemen:

This is an occasion where I felt that gray hair and old age are not a disqualification. During the last three days, the organizers have taken every effort to make gray-haired people rather conspicuous by the special consideration shown to them. I must say that the retired forest officers, including myself, have been looked after very well by Mr. Abeed Ullah Jan and his staff. What we enjoyed most was the excellent manner in which this seminar was organized by them and their associates from FAO and USAID.

I had the privilege of attending the policy formulation sessions in 1955 and 1962. Incidentally, in the 1955 session, Mr. Ghulam Ishaq Khan, our President, participated as Secretary Development of NWFP and he made a positive contribution. Compared to this, those were rather dry and rather unproductive events. We came out with formal policy statements which could have been formulated anywhere. They consisted mostly of generalities. I think this has been a very very productive session. A brainstorming session, in which the younger generation, particularly, made a useful contribution. One of the important experiences was that the people from other countries and the international agencies, like FAO, were involved in the discussions. They helped not only in funding the seminar, but also in providing guidelines for the discussions and for formulating the policy.

I congratulate Mr. Abeed Ullah Jan and his staff for the excellent manner in which they have organized the seminar. More so, the Master of Ceremonies, Dr. Afzal, who was largely responsible for the conduct of these various sessions and the excellent manner in which it has been done. We are thankful for the trouble they took in making us comfortable. However, I feel that these deliberations should not be left at that. Forestry policy is to be implemented by the provinces under the direction and guidance of the Federal Government. It is time that similar sessions are held in the provinces after the policy document goes to them. The Provincial Governments should go through the policy and organize similar brainstorming sessions in order to identify their difficulties and constraints. That would provide the opportunity to the

serving foresters and others to pool their experience and resources. Thus, they would be able to supplement our efforts at this seminar.

The work done in this seminar in the last three days has been a worthwhile one; the outcome is positive. What was most satisfying for me was the reaction of our friend, Mr. Gujral, from India who is representing FAO. He found the comradeship among the foresters here of a very very high order. This is something of which we are proud. The treatment and the consideration we got from our junior colleagues was really exemplary. There were times when a number of them must have prayed day and night to see us off the stage. They could not have been happy with all of us. Notwithstanding this, the comradeship which exists is really worth emulation by other services. Credit for this goes to the young foresters, the input of the training that they get at the Forest Research Institute and the subsequent grooming that they receive from their seniors.

I congratulate and thank Mr. Abeed Ullah Jan and his colleagues, not because he has been my colleague and earlier my student, but because they have done a first class job. They must not leave it at that. This session is going to end with lots of papers and proposals and tapes. They have to do a lot of work in Islamabad in order to bring this policy document into a final, acceptable and a realistic shape. I would suggest that while working on this raw material in Islamabad you get hold of Mr. Bokhari to assist you.

I thank you very much again. I also take this opportunity to thank the Minister of the Federal Government, Minister of the Frontier, and particularly the foreign guests who have contributed so much to the success of this seminar.

VOTE OF THANKS TO THE CHIEF GUEST AND TO THE
SEMINAR PARTICIPANTS

By

Mr. Abeer Ullah Jan
Inspector General of Forests

In the name of Allah the most beneficent and merciful.

Honorable chief guest, my dear friends and colleagues:

It is my pleasant duty and proud privilege to gratefully acknowledge the support of the Federal Minister of Food and Agriculture at this seminar and his acceptance to preside over the concluding session. I am also grateful to the Provincial Minister of Forests, NWFP, FAO Country Representative and USAID for their keen interest and strong support for the development of forestry in Pakistan.

The greatest benefit of this seminar was the interaction and cross-fertilization of ideas between professional foresters of all ages, from all the provinces and from all schools of thought. The group discussions, the presentations, and other activities of the seminar were of the highest order for which I express my gratitude to all the participants--local, from abroad, serving and retired.

Thomas Edison once said and I quote, "I value my garden more for the birds than for the blackberries," and very frankly, I give the fruit to the bird in exchange for their songs. As your Federal Coordinator, I shall do my best to provide the profession with the opportunities to meet and sort out our professional problems and to revive our contacts and relations both with persons outside and within the profession. The realization is that forest management--in actual fact, the management of the people--is the crux of the matter. The UNESCO constitution says and I quote, "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed." On the same analogy, I intend to say that since the desertification begins in the minds of men, it is in the minds of men that the defenses of the forests must be constructed. To achieve that, the new and changed role of the forester is a milestone on the road to modernization of forestry in Pakistan.

In addition to written forest policy recommendations that you have so laboriously drafted, we ought to adopt an attitudinal change policy which incorporates service. We must always remember that our training and knowledge must make us uniquely qualified to

offer objective advice about forestry to each other and to the society as a whole. All of us have chosen the profession forestry as our lifetime job. We have a commitment to ourselves and to the people to use that commitment--we should transfer the skill and technology to the farmers so as to produce a cadre of planters, rather than getting a few trees planted. That should be the measure of our success in the field. We are fortunate to have a Secretary of Agriculture who is an embodiment of knowledge and courtesy. With his cooperation and with the overall support and patronage of the Minister of Forestry and Agriculture, we shall be able to achieve that which others could not achieve before.

With these remarks, I am grateful to you, Sir, once again for gracing this occasion by your presence. Thank you very much.

APPENDICES

APPENDIX A

SEMINAR PROGRAMME

Sunday, 5 March 1989

REGISTRATION

15:00-21:00

Monday, 6 March 1989

REGISTRATION

8:00- 9:00

INAUGURAL SESSION

- 9:00 Arrival of the Chief Guest
- 9:05 Recitation from the Holy Quran
- 9:10 Keynote address by Dr. Raymond E. Fort,
FAO Country Representative
- 9:30 Address by Mr. Albert L. Merkel
USAID/Islamabad Representative
- 9:40 Review of Forest Policy in Pakistan-Future Needs by
Mr. Abeed Ullah Jan, Inspector General of Forests
- 10:10 Address by Chief Guest, Mr. Syed Abdullah Shah,
Speaker-Sindh Assembly
- 10:25 Vote of Thanks
- 10:30 Tea

FIRST SESSION

- 11:00 Papers presented by
 - Mr. George Leonard, USDA Forest Service
 - Mr. Mel Berg, USDI Bureau of Land Management
 - Mr. Christoph Duerr, Swiss Forest Engineer
 - Dr. Michael Kleine, GTZ Technical Advisor
 - Mr. R.S. Gujral, FAO Senior Technical Advisor
- 12:30 Lunch and Prayer

Monday, 6 March 1989

SECOND SESSION

- 14:00 Discussion of papers presented in the first session
- 15:00 Charge to the Working Groups by Mr. Abeed Ullah Jan
- 15:15 Individual meetings of Working Groups
 - Identification of key issues and problems relevant to policy formulation
- 17:30 End of second session
- 19:30 Dinner hosted by Mr. Abeed Ullah Jan
 - Inspector General of Forests

Tuesday, 7 March 1989

THIRD SESSION

- 8:30 Individual meetings of Working Groups
 - Formulation of policy recommendations
- 12:30 Lunch and Prayer

FOURTH SESSION

- 14:00 Working Group Chairmen and Rapporteurs summarize Working Group discussions
- 15:00 Joint Meeting of Working Groups
 - Presentation of working group discussions
- 16:30 Discussion of Working Group Presentations
- 17:00 End of fourth session

Wednesday, 8 March 1989

CLOSING SESSION

- 10:00 Arrival of Chief Guest
- 10:05 Recitation from the Holy Quran
- 10:15 Presentation of Working Group Reports
- 11:00 Closing Remarks by Raymond F. Fort
- 11:05 Closing Remarks by Albert L. Merkel
- 11:10 Address by Chief Guest, Mr. Rao Sikandar Iqbal
 - Minister of Food, Agriculture and Cooperatives
- 11.25 Vote of Thanks to Organizers by Sardar M. Habib Khan
- 11:30 Vote of Thanks to Participants by
 - Mr. Abeed Ullah Jan
- 11:40 Tea

APPENDIX B

LIST OF PARTICIPANTS

Distinguished Guests

Mr. Rao Sikandar Iqbal, Minister Food, Agric. & Coops.
Mr. Syed Abdullah Shah, Speaker, Sindh Assembly
Mr. Awal Sher Khan, Minister Forests, NWFP
Mr. U.A.G. Isani, Secretary Food, Agric. Division
Dr. Raymond E. Fort, FAO Representative
Mr. Albert L. Merkel, USAID Representative
Mr. Abeed Ullah Jan, Inspector General of Forests

Foreign Participants

Mr. George Leonard, USDA Forest Service, USA
Mr. Mel Berg, USDI Bureau of Land Management, USA
Mr. Christoph Duerr, Technical Advisor, Switzerland
Dr. Michael Kleine, Technical Advisor, FRG
Mr. R.S. Gujral, Sr. Technical Advisor, FAO
Dr. Pringle, Forestry Advisor, Canada
Mr. Patrick Durst, USDA Forest Service, USA
Dr. Charles R. Hatch, Winrock International, USA
Dr. Michael Dove, Winrock International, USA

Pakistan Participants

Sardar M. Habib Khan, Secretary Forests (Rtd.), Azad Kashmir
Mr. Hasan Ali Qureshi, Secretary Forests (Rtd.), Punjab
Mr. T.A. Ansari, Secretary Forests (Rtd.), Sindh
Mr. W.A. Kermani, IGF (Rtd.), GOP
Kh. G. Yasin, CCF (Rtd.) Azad Kashmir
Mr. A.S. Bokhari, DG (Rtd.), Rural Development
Dr. G.M. Khattak, Vice Chancellor, Agric. Univ., NWFP
Kh. Hameed Ullah, Project Officer, USAID, Islamabad.
Kh. Ahmed Saeed, Secretary Forests, Azad Kashmir
Mr. Taj M. Naeem, Secretary Forests, Balochistan
Mr. Abdul Rehman Khan, Secretary Agriculture, NWFP
Mr. S.K. Khanzada, Secretary Forests, Lahore, Punjab
Dr. M. Ashraf, Officer on Special Duty, Lahore, Punjab
Mr. Saleem Maqsood, Joint Secretary Industries
Mr. S.A. Qutub, Joint Secy., Env. & Urban Affairs Div., GOP
Dr. Salahuddin Solaiman, Chief Agric., Planning Div., GOP
Mr. I.A. Qazi, Additional Inspector General of Forests
Dr. K.M. Siddiqui, DG, PFI

Kh. M. Usman, CCF, Azad Kashmir
Mr. Mohammad Rafiq, CCF, Balochistan
Mr. Maqbool ur Rehman, Managing Director FDC, NWFP
Mr. Yar Mohammad Khan, CCF, NWFP
Mr. M.I. Sheikh, CCF, Lahore, Punjab
Mr. Anwar Masrur, CCF, Multan, Punjab
Mr. Bahauddin Sirhandi, CCF, Sindh
Dr. B.A. Wani, Deputy Inspector General of Forests
Mr. Nasrullah Khan, Deputy Inspector General of Forests
Mr. Rafiq Ahmad, Deputy Inspector General of Forests
Ch. M. Sadiq, CF, Muzaffarabad, Azad Kashmir
Dr. Shaheen Rafiq Khan, PD, Malakand Social Forests Proj.
Mr. Shaukat Ali Arain, CF, Hyderabad, Sindh
Mr. Shamsul Haq Memon, CF, Hyderabad, Sindh
Mr. Ghulam Mustafa Sheikh, CF, Social Forestry, Karachi, Sindh
Mr. Abrar Hussain Mirza, CF, Research, Hyderabad, Sindh
Mr. Afzal Haq, CF Range Mgt., Hyderabad, Sindh
Mr. Khan Mohammad, CF Wildlife, Sindh
Mr. Hasan Ali Baloch, Dy. Secretary, Karachi, Sindh
Mr. M. Farooq Ahmed, Dir. Zoological Survey, Karachi, Sindh
Mr. A.L. Rao, Conservator Wildlife, NCCW
Mr. Haider Ali, DFO Malakand Social Forestry
Dr. M. Afzal, DFO, Farm Energy Project, Islamabad, Punjab
Mr. Ashiq Ahmad, Wildlife Management Specialist, PFI
Mr. Nazar Malik, PS to Minister Food & Agriculture, GOP
Mr. Ali Raza, Section Officer, GOP
Ms. Fehmida, Res. Officer, Zoological Survey, Karachi, Sindh
Mr. Naeem Bashir, Manager KDC Boards Limited Jhelum, Punjab
Mr. Javed Niaz, Orient Match Factory, Lahore, Punjab
Mian Rafiq Ahmad, Pres. Coal Miner's Assoc., Lahore, Punjab
Mr. M.M. Hussain, Forest Seed Supplier, Lahore, Punjab
Mr. Iqbal Saeed, Packages Ltd., Lahore, Punjab

APPENDIX C

WORKING GROUP CHAIRMEN, RAPORTEURS AND MEMBERS

Working Group on Social-Economic Conditions:

Chairman: Dr. G.M. Khattak
Rapporteur: Dr. M. Afzal
Members: Mr. Taj M. Naeem
Mr. Saleem Maqsood
Mr. Syed Ayub Qutub
Kh. M. Usman
Dr. B.A. Wani
Mr. Shaukat Ali Arain
Mr. Rafiq Ahmad
Mr. Haider Ali
Mr. Christoph Duerr
Mr. R.S. Gujral
Mr. Patrick Durst

Working Group on Intersectorial Linkages:

Chairman: Sardar M. Habib Khan
Rapporteur: Mr. T.A. Ansari
Members: Kh. Ahmed Saeed
Mr. Maqbool ur Rehman
Mr. Bahauddin Sirhandi
Mr. Shamsul Haq Memon
Mr. Naeem Bashir
Mr. Javed Niaz
Mian Rafiq Ahmad
Mr. Ashiq Ahmad
Mr. M. Berg
Dr. Charles Hatch

Working Group on Forestry Related Legislation:

Chairman: Dr. M. Ashraf
Rapporteur: Mr. Anwar Masrur
Members: Mr. Abeed Ullah Jan
Dr. Salahuddin Solaiman
Mr. Nasrullah Khan
Ch. M. Sadiq
Mr. Afzal Haq
Mr. Hasan Ali Baloch
Mr. M. Farooq Ahmed
Mr. G. Leonard

Working Group on Future Objectives and Direction:

Chairman: Mr. W.A. Kermani
Rapporteur: Mr. A.S. Bokhari
Members: Mr. Hassan Ali Qureshi
Kh. Hameed Ullah
Mr. Abdur Rehman Khan
Mr. I.A. Qazi
Mr. Yar Mohammad Khan
Dr. Shaheen Rafiq Khan
Mr. Abrar Hussain Mirza
Mr. A.L. Rao
Mr. M.M. Hussain
Dr. Michael Kleine

Working Group on Financial and Political Support:

Chairman: Mr. S.K. Khanzada
Rapporteur: Mr. M.I. Sheikh
Members: Kh. G. Yasin
Dr. K.M. Siddiqui
Mr. Ghulam Mustafa Sheikh
Mr. Iqbal Saeed
Mr. Albert Merkel
Dr. Pringle
Dr. Michael Dove

APPENDIX D

BACKGROUND MATERIALS PREPARED FOR THE SEMINAR

- Jan, Abeed Ullah, I.A. Qazi, N.K. Aziz, B.A. Wani and M.R. Dove
A Review of Past Forestry Policy in Pakistan," Islamabad:
Office of the Inspector General of Forests, Ministry of Food,
Agriculture & Cooperatives. 27 p., 1989.
- M.M. Hussain & Sons, "The Road to Forests," Lahore: M.M. Hussain
& Sons. 12 p., 1989.
- Office of the Inspector General of Forests, "Proposed Objectives
for a New Forestry Policy for Pakistan: Draft," Islamabad:
O/IGF, Ministry of Food, Agriculture & Cooperatives. 13 p.,
1989.
- OMCO, "A Presentation by Orient Match Company, Ltd.", Shahdara/
Lahore: Orient Match Co., 22 p., 1989.
- Rafiq, Mohammad and R.P. Mulder, "The Obstacles in Promoting
Forestry on Private Lands: The Case of Malakand Social
Forestry Project," Saidu Sharif: Malakand Social Forestry
Project. 7 p., 1989.