

# HISTORICAL PROSPECTIVE OF FOREST COVER AND MANAGEMENT IN SRI LANKA

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## Introduction

Sri Lanka was a land of rich tropical forests, natured by abundant radiation, high temperatures and rainfall. The forest and people relationship has a long history since *King Vijaya* (543 B.C.) landed to the Island. There is no doubt that even prior to colonial times; the forest cover would have played a major role in the lives of inhabitants. A major percentage of area of Sri Lanka was covered by rich tropical forests in the early stage. This consisted 90% of the total ground area. There is no doubt that ever period to colonial days forest cover was have played a major role in shaping of the lives of the inhabitants. Over the last two centuries much of this heritage has been destroyed gradually along with many of its material benefits to extend development activities and to fulfill day-to-day needs of peoples (NRSL, 1991).

As a strategy of forest management, it was found that the plantation forestry is an ideal alternative to minimise present problems as well as to meet present and future demand for forest products. The plantation forestry was originally introduced to Sri Lanka in 1870s (FSMP, 1995). However, most of the plantation programmes were introduced and conducted on during the latter part of the 20th century (e.g. Dawatagolla Jack (*Artocarpus intergrifolia*) and Mahogany (*Swietenia macrophlla*) plantation was also established in 1930s).

With the adoption of advance techniques pertaining to the forest management the concept of sustainable development became a common point in early 1970s. After the "Rio Summit" in 1992, probably, the concept of sustainable development was applied in every development activities including forestry sector. The

increasing needs for forest products and deforestation are two contrasting elements which to be managed in the middle level without compromising to the social and ecological environment. To fulfill unlimited demands for forest products, the "multiple-use of forestation" was introduced. Meanwhile, the concept of "Public Participation" in the forest management activities (participatory management) has become a center point of forest management. This concept strongly believes that any social or environmental problems, which are being arisen due to the human activities, cannot be mitigated or stopped without the participation of the public. As a modern form of this approach, "social forestry or community forestry" was implemented with the participation of the people (FSMP, 1995).

## Historical background

The British Colonial Ruling took over the coastal areas of the Island in 1796. Subsequently, they were successful in capturing the upcountry kingdom through a peaceful conspiracy in the year 1815.

Since then, the destruction of forests for the purpose of developing and expanding of Timber Industry had been carried at large scale. This has resulted in percentage reduction of forests through out the Island.

Further, during the early stage of the 19<sup>th</sup> century (in 1835) both Coffee and Tea plantation were introduced in Ceylon, which had required more land area for cultivation in the central province (particularly in the N-Eliya District). This too had contributed in great measures towards the destruction of forests during the period under reference.

After independence were gained in 1948 and with the expansion of population more land were required for the purpose of settling down. In addition, massive development activities such as Mahaweli project exploited forest cover further. The total forest area in 1992 was estimated at 24% of the land area. Therefore, the Forest Department (FD) has accelerated its conservation programs, promulgated a new Forest Policy (FP), enlisted people's participation, commenced social tree planting, agroforestry, community forestry and plantation forestry, prepared modern forest management plans etc.

## Statistical background

The first comprehensive forest survey of the country after gaining independence was conducted during 1956-1961. Through out the statistics collected, it was revealed that the total area of forests in the country were 2.9 million hectares, which was 44% of the total land area. . Even at that stage over-exploitation had so spread that as much as 42% of all natural forests were classified as non-productive. In 1982-1985, the Food and Agricultural Organization (FAO) carried out a second inventory to obtain data for the Forestry Master Plan (FMP). Accordingly, Sri Lanka's forest cover was 1.76 million hectares and the area of scrubland was 625,000 hectares. The aggregate figure of 2,385 million hectares or 36% of the land area is often cited as the area of forestland. At present, due to agricultural, industrial, housing development activities and war situation; the forest cover has been declined to 22% of the land area (NRSL, 1991).

The following statistical information (Table 1) provides the declining trend of the forest cover in Sri Lanka with the rapid expansion of population.

Table 1: Forest Cover and Population

Year	Population (million)	Forest cover (million)	Forest cover (%)
1881	2.80	5.46	84
1900	3.50	4.50	70
1956	8.50	2.90	44
1983	14.9	1.75	27
1992	17.5	1.56	24
1999	18.0	1.43	22
2010	20.0*	1.00*	14*

\* Estimated figures

source : Forestry Administrative Report - 1999

## Policy, legislation and institutional framework

The policies are the foundation of forest legislation and the development of forest related institutions. The implementation of policy requires guidance which would be provided through the legislation and establishment of institutional backgrounds respectively.

In 1929, a first step towards an explicit forestry policy was taken by introducing statement concerning sectoral objectives viz. (a) self sufficiency in construction timber, firewood, export timber and forest produce; (b) conservation and preservation of water soil, forest etc. In 1931, the processes of mapping forest reserves were started and the concept of management by working plans was introduced into practical forest management. Further in 1938, it was declared with a decision that all forest areas above 1500 m (about 5000 feet) were considered as a climatic and protective resource and to be maintained in the interest of the nation (FSMP, 1995).

Mostly, the comprehensive policies were introduced from 1953 onwards by various institutions such as FAO and FD. Until the early 1980s, forestry was considered to be the responsibility of the Government.

In 1980, there was a clear change in policy that the importance of involving peoples in forestry development. Asian Development Bank (ADB) funded for various forestry development project, with the participation of people such as community forestry since 1982 to 1990. The draft forest policy which was proposed by FD in 1991 had eight statement viz. role of forest in the environment, forest land tenure, forestry and land-use, sustainable development, conservation and forest ecosystems, recognition of research and

education as priority needs, inter-institutional links and people's participation. But, the draft policy was not implemented due to the commencement of Forest Sector Master Plan (FSMP). As a foundation of this draft policy of 1991, the *National Forest Policy* (NFP) was approved in 1995 (FSMP, 1995).

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In terms of the Timber Ordinance enforced in 1822, cutting down of Jak trees in crowns land and private land prohibited unless it is supported by a valid Licenses Issued by the proper authorities. After 1840, various ordinance related to the forest sector were enacted. The most important ordinances are listed below.

- ✍ The wastelands Ordinance (1840)
- ✍ The Forest Ordinance, No 10 (1885)
- ✍ The Forest Ordinance, No.16 (1907)
- ✍ The Land Settlement Ordinance (1931)
- ✍ The Land Development Ordinance (1935)
- ✍ The Fauna and Flora Protection Ordinance, No. 2 (1937)

- ✍ The Crown Lands Ordinance, No. 8 (1947)
- ✍ The Soil Conservation Act, No. 25 (1951)
- ✍ The National Heritage and Wilderness Area Act, No. 3 (1988)

The present organizational structure provides a proper institutional background to the forest sector. There are many agencies also are actively involved in the forestry sector development activities. A list of the institutions, which are highly related to the forestry activities are furnished bellow.

- ✍ Forest Department
- ✍ Department of Wildlife Conservation
- ✍ Non-Government Organizations
- ✍ Non-State Sector etc.

It must also be emphasised that the non-state sector, including farmers, industries and NGOs, forms an integral part of the institutional establishment of the forestry sector.

The FD had declared 60% of the forest covers as protected areas and as multiple use management forests. The Department of Wild Life Conservation manages 40% of the forest cover as all protected areas only. Apart from the above, the State Timber Corporation is responsible for extraction and sale of timber.

## **Forest management**

Management is the process of making and effecting decisions or plans to meet the needs of the people. In other words, management is always carried out by means of decision or plans implemented it concerns the future, therefore, the process of making decisions is the central importance of evaluating any management system (Asia-Pacific Forestry Commission, 2000).

However, the “Forest Management is a branch of forestry whose function is the organization of a forestry property for management and maintenance, by ordering in time and place the various operations necessary for the conservation, protection and improvement of the forest on the one hand, and the controlled harvesting of the forest on the other” (Parakash, 1985).

Silvicultural practice is a branch of forest management which deals with the establishment, development, care and re-production of tree stands. Main objectives of silvicultural practice are production of species economic value, production of larger volume per unit area, production of quality timber, increasing rate of growth reducing rotation, raising forest in blank areas, creation of man- made frosts and introduction of exotics (Ranasinghe, 2002).

As a tool of silvicultural practice, thinning is a felling made in an immature stand for the purpose of improving the growth and form of the trees that remain without permanently breaking the canopy. Its objective is increase merchantable yields by distributing volume growth on fewer large trees. The most commonly used thinning are mechanical thinning, ordinary thinning and crown thinning (Ranasinghe, 2002).

Pruning is removals of live and dead branch from bole at early stage to productive knot-free timber.

System of successive regeneration felling, this system consists four methods/types; uniform system, group system, wedge system and irregular shelterwood system. Felling may damage young regeneration and young crops take more time for establishment. Selection system is a silvicultural system on which felling and regeneration are distributed over the whole crop area and the resultant crop is so unevenaged that trees of all ages are found mixed together over the entire forest.

Single tree selection system is single mature trees are selected and felled to enable regeneration to replace them. Since this pattern is very hypothetical, the forest area is divided into coupes and the operations are done in coups every year.

In the early 1970s, “sustainable development” became a common theme as concerns grew over the burgeoning world population and increasingly polluted environment. One of the turning points of sustainable development was the United Nation's Conference on “Human Environment” in Stockholm in 1972. The Brundtland Report (1987) of the World Commission on Environment and Development characterized sustainable development as “*development that meets the needs of the present without compromising the ability of the future generation to meet their own needs*”. The term “sustainable development” was further popularised by the Rio Summit on environment and development in 1992, which approved the action program, Agenda 21, under which world governments agreed to promote sustainable development nationally and in international co- operation. (Asia and Pacific Forestry Commission (2000).

The wide ranging nature of the debate associated with that process has meant that the “Sustainable development” has many dimensions and many interpretations with many definitions being proffered by people from different disciplinary and professional backgrounds. At an operational level four interlinked dimensions can be recognized, i.e., economic, environmental, social and cultural.

### **Conclusion**

Forest cover shows a declining trend in itself due to the human activities. Safeguarding forest cover and development activities are two contrasting and right opposite elements which should be well managed in the middle level without compromising to our future generations. It is a policy maker's responsibility to formulate new policies and amend the existing policies to enable us to safeguard at least existing forest cover. On the other hand, general public has a great responsibility to participate and support to conserve the existing natural forest on behalf of our children.