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Feasibility of economic species under Mahableshwar plateau

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ABSTRACT

The development and progress of the region is associated with the serious loss of natural resources of the country. Western–Ghat zone represents rich evergreen tropical forest. In Maharashtra, Mahabaleshwar – Panchgani plateau comprises 145 km^2 area and situated at 1372 m above mean sea level, and is a hilly watershed protecting the ecology. Heavy rains are received during monsoon but there is a severe scarcity of water during summer. The deforestation and over exploitation of the forest on account of fuel-wood, grazing, illegal felling are poising serious problems of shortage of drinking water, soil erosion, floods, siltation of Krishna-Koyana valleys, scarcity of fodder, threat to human and animal life and unrecoverable losses of flora and fauna. The feasibility model studies, with eco-friendly tree species at the plateau comprising of multipurpose trees, fodder shrubs, non edible oil producing trees, medicinal and commercial trees and local species. The promising species found were Acrocarpus, Silveroak, Casuarina, Eucalyptus hybrid and Polara.

Key words : Acrocarpus, Silveroak, Casuarina, Eucalyptus hybrid and Polara.

Watershed development is a matter of concern for a man of conscience for many reasons. World's population is expected to reach 8.00 billions from present 6.00 billion in 2025 and demands for water for domestic purpose, industries and irrigation is growing rapidly. Water problem is not due to lack of precipitation but it is due to free run off, unsustainable and inefficient use. Trees and vegetation plays a pivotal role in soil water conservation. In third world countries 90 per cent of water from reservoirs goes for irrigation and 40 per cent of treated water goes waste in cities (Anonymous, 1995).

Environmental importance

According to world bank report as many as 80 nations will be severely short of water after 2000 A.D. the climatic changes will cause wide spread economic, social and environmental dislocation in the next century (Stevens, 1995).

Indian scenario

In India the increase in cultivable area due to felling of forest had reduced forest area to merely 13 per cent of our total land as against 33 per cent. The per capita forest area has also declined to 0.06 ha as against the world average of 1.6 ha. Decline in green mantle, exposed land to sun, wind and water which annually erode 6000 metric tonnes of top and fertile soil, causing siltation of dams and rivers, leading to floods, loss of human and animal life (Deb Roy and Gill, 1990).

More than 30 per cent of entire energy requirement of India is met by trees and woody, shrubs. Looking towards the explosive population of the country, food and fuel wood production is to be increased by 75 and 140 million tonnes respectively. Looking towards the importance of the problem a trial on various multipurpose trees was laid at NARP, Maharashtra to explore the possibility of commercial cultivation of economic species.

MATERIALS AND METHODS

Western-Ghat zone of India has evergreen tropical. Hilly region covered with forest is receiving heavy rainfall and has red-laterite soils. The undulated land and heavy rainfall results in soil erosion (Lasker and Datta, 1992). Erosion make soil poor in minerals and cause decline in organic matter (Bose *et al.,* 1990).

Mahabaleshwer, plateau is situated between 73.31 to 73.52 East longitude and 17.59 to 17.50 North latitude and has a special environmental importance for its heavy rainfall watershed ecology. The plateau comprise twin hill stations viz., Mahabaleshwar and Panchgani (1372 m above mean sea level) and an area of 145 km^2 presents ground base for insurmountable clouds in monsoon and receives annual rainfall of 6635 mm. The annual mean minimum maximum temperature is 13.16 and 21.03° C respectively. The precipitation at plateau is flourishing economy of entire Krishna-Koyana basin which represents the most developed region of the country. To sustain the development of the region, it is indispensable to maintain the ecology of the Mahabaleshwar plateau.