

Riverine Forest of Sindh:

A Legend Fading Away

Fact Sheet (008.09.02)

Introduction

The forest growing along the river depending upon annual inundation waters received at time of flooding are called riverine forests. Riverine forests in the province of Sindh owe their existence to the River Indus. The predominant species of riverine forests in Sindh are *Acacia nilotica* (Babul), *Prosopis cineraria* (Kandi), *Tamarix aphylla* (Lawa), *Tamarix dioca* (Lai) and *Populus euphratica* (Bahan).

Riverine forests and irrigated plantations constitute the most productive forests of the province as they provide commercial timber and firewood. These riverine forests are not ordinary wasteland jungles; they are unique ecosystem; providing habitat to a variety of vertebrate and invertebrate fauna and flora. The forests and adjacent swampy areas provide ideal habitat to the endangered Hog deer.

Current Scenario

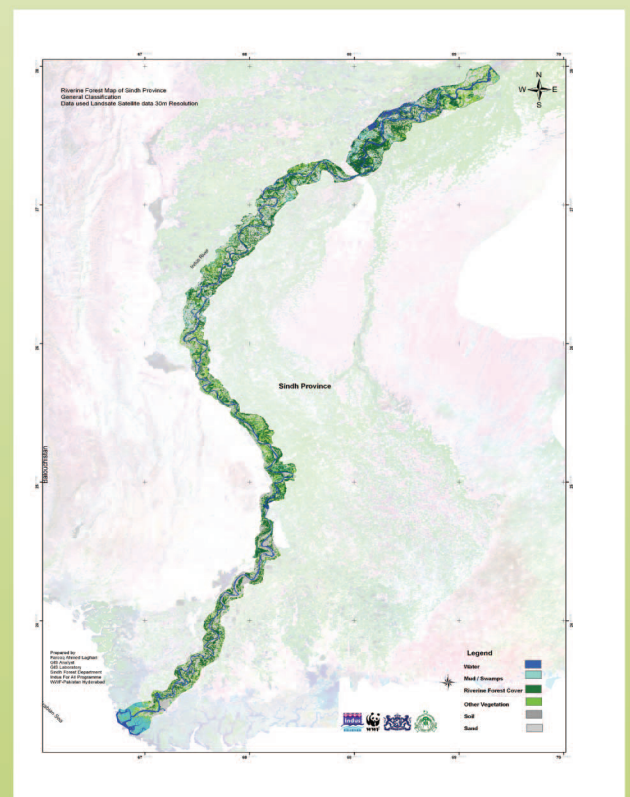
According to the Sindh Forest Department's estimates riverine forests are spread over 0.241 million hectares which make 1.7% of the total land area of the Province.

Riverine forests in the four districts upstream Sukkur (Ghotki, Sukkur, Kashmor and Shikarpur) are spread over an area of 48,470 hectares while downstream Kotri these forests occupy an area of about 56,010 hectares in Thatta, Hyderabad and Jamshoro.¹

With the construction of barrages on river, the Kacho (land in between protected embankments) is divided in the following three zones:

- Area between Guddu and Sukkur barrages
- Area between Sukkur and Kotri barrages
- Area between Kotri barrage to mouth of the Indus River

The ecological features, biodiversity and socio-economic conditions of the above areas are dependent on water regime and as a matter of fact they are three different sub-ecosystems with varying characteristics and distinct environments.



Map Showing the riverine belt of Sindh

¹Kella, L., G.R. Keerio, 2008. Study of riverine forest upstream Sukkur and downstream Kotri. Indus for All Programme WWF Pakistan.

Causes of Degradation of Riverine Forests in Sindh

Construction of Barrages and Dams on Indus:

Riverine forests are fast deteriorating after the construction of upstream reservoirs that have significantly reduced the intensity, extent, and frequency of annual flooding. Diversions on Indus River due to the installation of canals and link canals have further worsened the on spot situation. It is estimated that in recent times around 50 per cent of the gross area of riverine forests is inundated even in high floods.

The vast irrigation system in Pakistan is comprised of three major storage reservoirs, 19 barrages or head works and 43 main canals with a conveyance length of 57,000 km and 89,000 water courses with a running length of more than 1.6 million Km.

Population Growth:

The irrigated tract of the Province has high concentration of human population with more than 70% of the population depending upon agriculture. People living in Kacho area and adjoining towns and villages depend either directly or indirectly on the riverine forest resources for meeting their domestic needs in the form of goods (fuelwood and timber) and services (agriculture, livestock rearing etc). As per an estimate, people residing within 5 Kms. of forests are dependent on riverine forests to the extent of 50%, whereas 30% needs of the people living up to 10 Kms are met from riverine forests.

Grazing Pressure:

In riverine tract, livestock rearing is one of the main occupations people. Being Babul and Kandi for being favourite fodder for browsing animals, always remain under excessive pressure. Moreover, regeneration of ground flora is also affected by trampling of animals.

Illegal Allotments by the Revenue Department:

Revenue department has made several allotments of forest areas to local people under land grant policy. Even such lands have been allotted which were in possession of the Forest Department for decades and from where Forest Department has harvested its tree growth for more than two rotation cycles of 25 years each. This illegal action of the Revenue Department has encouraged many private parties to fraudulently grab the forest lands. As reported, more than 10,117 hectares of forestland have been allotted to the local people by the Revenue Department.

Forest Land Encroachments:

According to an estimate 16000 ha of forest lands are under encroachment which are equivalent to 15% of the productive forest lands. Agriculture expansion along riverine tract due to increased populations has also exacerbated the land encroachment. Local influentials and landlords are the driving force behind land these encroachments.

Inconsistent Policies and Lack of Effective Management Practices:

The changing policies regarding lease of forest land for agricultural purposes is another setback to the forestry resources. Due to land hunger for agricultural purposes, there has been pressure from influential people for cultivation of agricultural crops on much relaxed terms during the last two decades. Most of the existing policies and legislation are the continuation of the colonial periods in which forests were managed and controlled through punitive measures. Local communities, who are the main stakeholder, are not given a role in management of forest resources.

CONCLUSION:

Riverine forests have been degraded to a significant degree and their ecosystem function has ceased to exist. It is high time to act and adopt appropriate policies so that this important ecosystem could be revived and made functional. Riverine forests are a type of landscape in which redevelopment of a plant, animal and microbial community dominated by trees occur naturally or with artificial management assistance. Participatory forest management approaches, revision and update of forest laws and a regular monitoring of ecosystem should be the immediate future priorities.

For Further Information
Indus for All Programme, WWF - Pakistan
Programme Management Unit (PMU)

606, 607 Fortune Centre, Block-6
P.E.C.H.S. Shakra-e-Faisal, Karachi.
Tel: 021-4544791-92, Fax: 021-4544790
www.foreverindus.org, www.wwfpak.org